



**Hewlett Packard  
Enterprise**

# **HPE 3PAR Service Processor Software 5.0.5 User Guide**

## **Abstract**

This user guide provides information on using HPE 3PAR Service Processor software 5.0.5 and the HPE 3PAR StoreServ Service Console.

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## Revision history

Part Number	Publication date	Edition	Summary of changes
QL226-10011	April 2019	1	<ul style="list-style-type: none"><li>Switching the transport agent from SSA to RDA</li><li>HPE 3PAR SP update concepts</li><li>HPE 3PAR OS update concepts</li><li>Updated all instances of <b>Admit Hardware</b> with <b>Update Firmware</b>.</li><li>Network settings (updated for dual NIC)<ul style="list-style-type: none"><li>Secondary network (new chapter)</li></ul></li></ul>
P12929-001	December 2018	1	<ul style="list-style-type: none"><li>Local notifications (new topic)</li><li>Support settings has a new setting (<b>From Email</b>)</li></ul>

*Table Continued*

Part Number	Publication date	Edition	Summary of changes
QR482-97428	August 2018	1	<ul style="list-style-type: none"> <li>• Rebranded references of VMvision, VMvision Collection and VMware Integration to 'Cross Stack Analytics'.</li> <li>• Rebranded references of StoreFront Remote to 'InfoSight'.</li> <li>• Added support for VMware ESXi 6.7</li> <li>• Service Processor Configuration settings -&gt; Support Settings has a new setting <b>Communicate with HPE using the host name</b>.</li> </ul>
QL226-99871	June 2018	1	<ul style="list-style-type: none"> <li>• Support for the HPE 3PAR DL360 Gen10 Service Processor</li> <li>• Add retrieving and transferring support data</li> </ul>
QR482-97368	January 2018	1	<ul style="list-style-type: none"> <li>• Add FIPS 140-2 mode for the Service Processor cryptographic modules, including remote support transport</li> <li>• Add and import CA certificates</li> <li>• Support for HPE InfoSight VMVision and VM Monitoring and Analytics</li> </ul>

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# Introduction to the Service Console

The HPE 3PAR Service Console (SC) is the interface for the physical or virtual Service Processor (SP) which collects data from a managed HPE 3PAR StoreServ Storage system in predefined intervals as well as on an on-demand basis and sends the data to Hewlett Packard Enterprise Remote Support, if configured. The SC also allows service functions to be performed by a company admin, HPE support, or an authorized service provider.

SC replaces Service Processor Onsite Customer Care (SPOCC), the Graphical User Interface (GUI) for SP versions 4.4 and earlier. SC functionality is similar to SPOCC.

## Service Console features summary

HPE 3PAR Service Console software provides a browser-based interface for managing both the SP and the 3PAR StoreServ Storage system.

The Service Console includes the following key features:

- Screens for initializing, restoring, updating, and configuring a service processor, initializing and adding storage systems, collecting support data, and more.
- Screens for monitoring and updating attached storage systems and hardware components such as controller nodes, ports, drive enclosures, and physical drives.

### More information

**Service Console concepts** on page 44

**Service Console users and passwords** on page 76

**Array hardware overview** on page 52

**Support data collection (Systems)** on page 77

## Service Processor overview

HPE 3PAR Service Processor is an administrative device that helps in servicing the array. The service processor software runs on Linux operating system and is available as a virtual server appliance or as a physical server appliance.

The key features of the Service Processor are:

- It initializes the StoreServ system based on HPE 3PAR OS.
- It updates the HPE 3PAR OS on the storage system when newer versions and patches are available.
- It helps to monitor the health of the storage systems and updates the firmware when new hardware is added.
- It transfers the storage system configuration files, events and logs as well as performance related data back to the HPE headquarters. This helps HPE to remotely monitor the system and provide diagnostic information about potential problems that may occur on the system. HPE alerts the user through email notifications and via automatically created support cases so that the user can avert such issues.

**About Physical SP:** The physical SP is a hardware device mounted in the system rack. If you choose a physical SP, each storage system installed at the operating site includes a physical SP installed in the same cabinet as the controller nodes. A physical SP uses two physical network connections; one (eth0) requires a connection from your network to communicate with the storage system. The other (eth1) is for maintenance purposes only and is not connected to your network.



**About Virtual SP:** The Virtual SP (VSP) software is provided in an Open Virtual Format (OVF) for VMware vSphere Hypervisor and self-extractable Virtual Hard Disk (VHD) package for Microsoft Hyper-V. The VSP is tested and supported on Microsoft Hyper-V (Windows Server 2012/2012 R2/2016) and the VMware vSphere hypervisor (VMware ESXi 5.5/6.0/6.5/6.7). The VSP has no physical connections. It runs on your self-owned, self-defined server and communicates with a 3PAR StoreServ Storage system over its own Ethernet connections.

## SP software versioning

SP 5.x software versions use the format `SP M.m.U.P-B`

Where:

- M—Major
- m—Minor
- U—Maintenance update
- P—Patch number
- B—Build number

For example:

SP 5.0.0.0-33 refers to 5.0 GA (build 33)

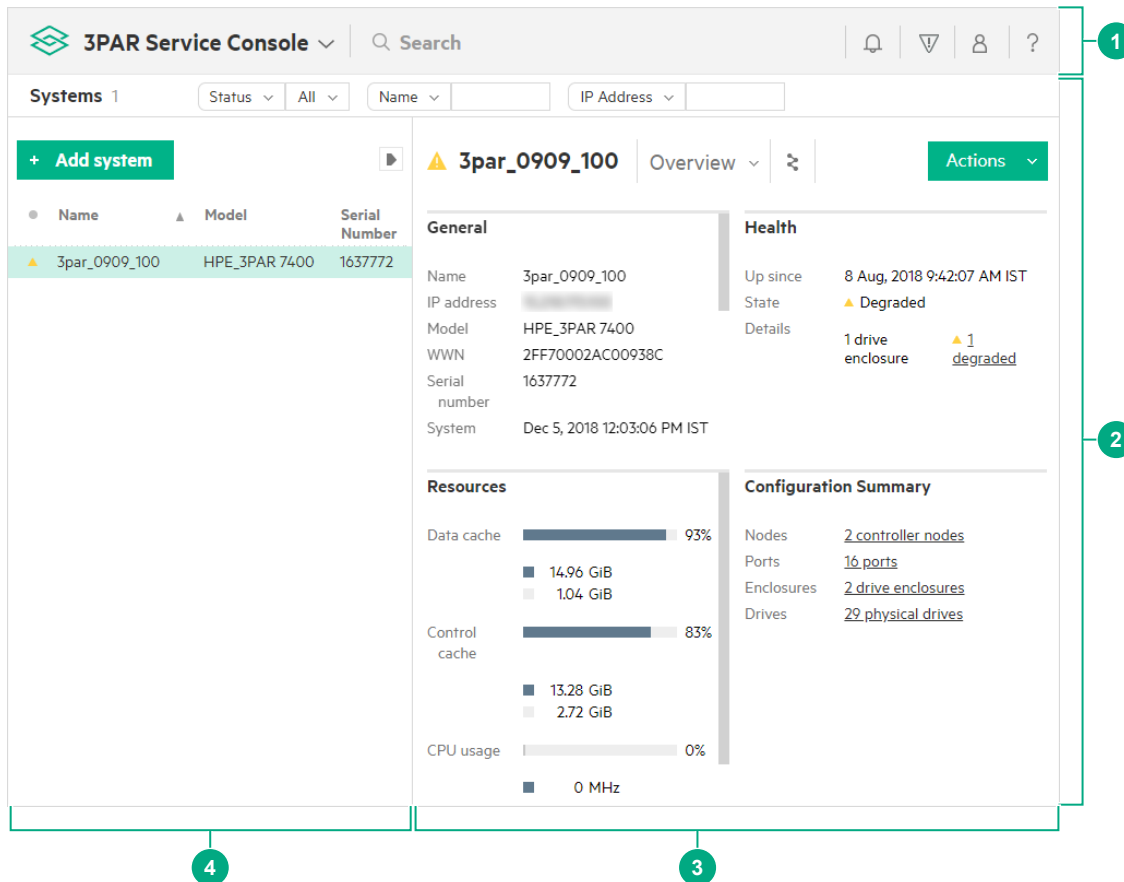
SP 5.0.0.1-23119 refers to 5.0 GA Patch 1 (build 23119)

SP 5.0.1.0-23227 refers to 5.0 MU1 (build 23227)

# Service Console quick tours

## Quick tour start

The Service Console consists of the following parts:



**Main menu & banner (1)** – The Main menu and banner area includes the menu for selecting screens, a search box, sidebars for activities and help, and a session menu.

**Screens (2)** – The screens area displays tabular and graphical information and provides action dialogs for managing storage systems. Screens include one or both of the following panes:

**Detail pane (3)**

**List pane (4)**

When you select an item in the list pane, additional information about it is displayed in the detail pane. When an item is selected, you can perform tasks related to the item through the Actions menu. Many lists can be sorted and filtered and include multiple views that you can select.

### More information

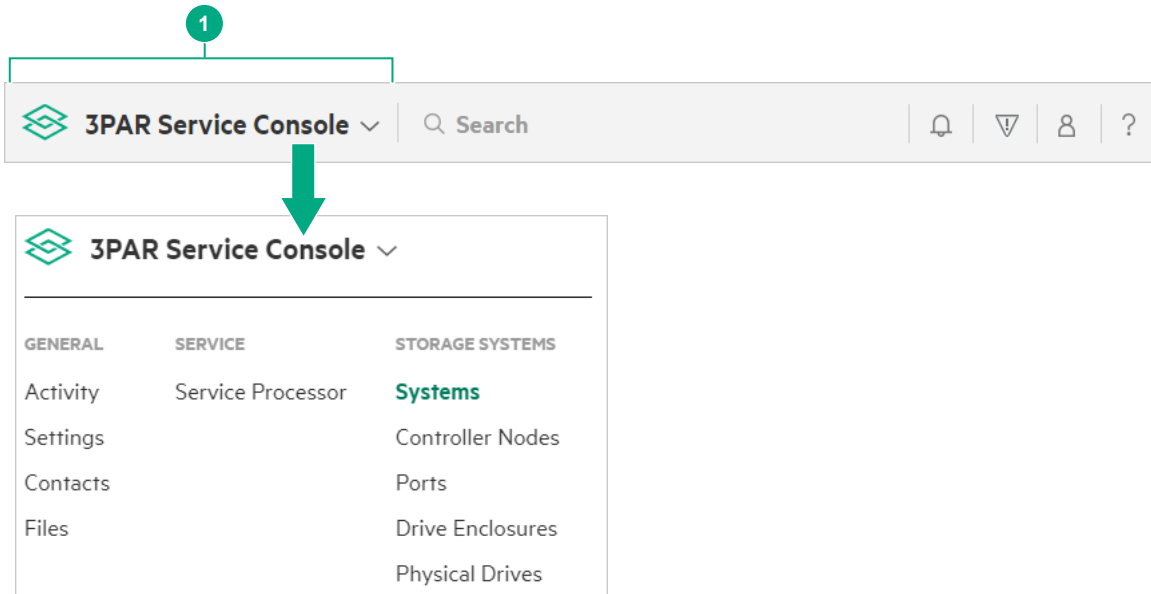
**Main menu and banner quick tour** on page 11

**Dialogs quick tour** on page 16

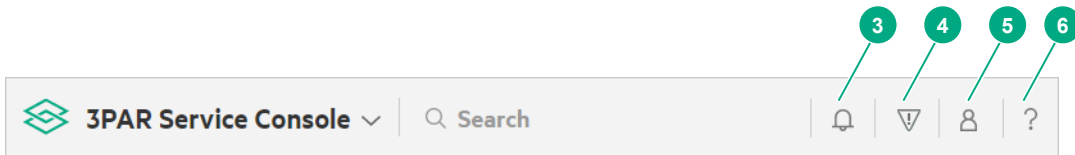
**List panes quick tour** on page 12

**Detail panes quick tour** on page 13

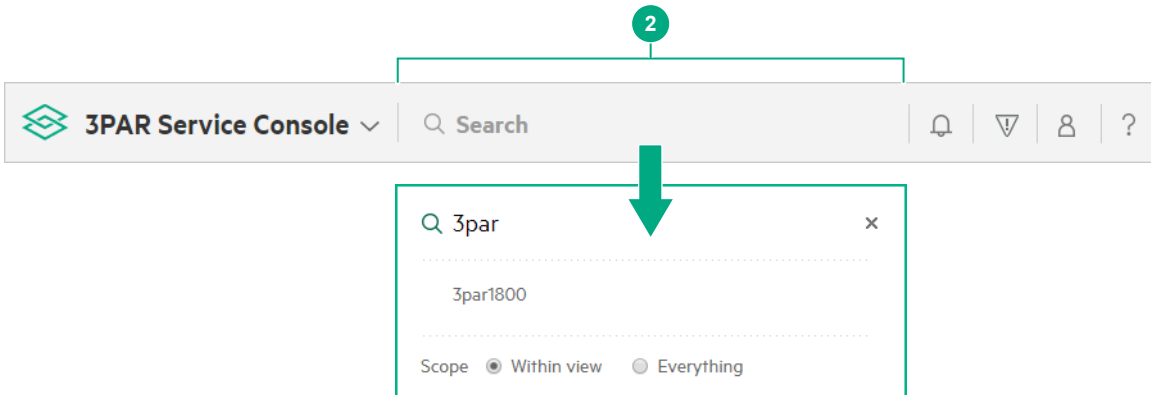
# Main menu and banner quick tour




**Main menu (1)** – Clicking the menu area opens the main menu of screens. Selecting a screen from the menu displays a summary of configuration settings for the selected screen and provides actions menus. Depending on the screen selected, system resources such as CPU usage, throughput, physical memory, and so on may be displayed.



**Search box (2)** – Clicking the banner Search area opens the search box. As you type, a list of search results is displayed. Clicking an item selects and displays the item.



**Task sidebar (3)** – Clicking the Tasks icon (  ) opens the Tasks sidebar on the right side of the screen.

**Alerts menu (4)** - Clicking the Alerts icon (  ) opens the available alert notifications in the sidebar. Alerts are triggered in the system in cases of availability of 3PAR OS updates, loss of SP connectivity with the HPE server and other scenarios.

**Session menu** (5) – Clicking the Session icon (👤) opens a menu for logging out. The menu also displays the user name and the session duration.

**Help sidebar** (6) – Clicking Help icon (?) opens the Help sidebar on the right side of the screen.

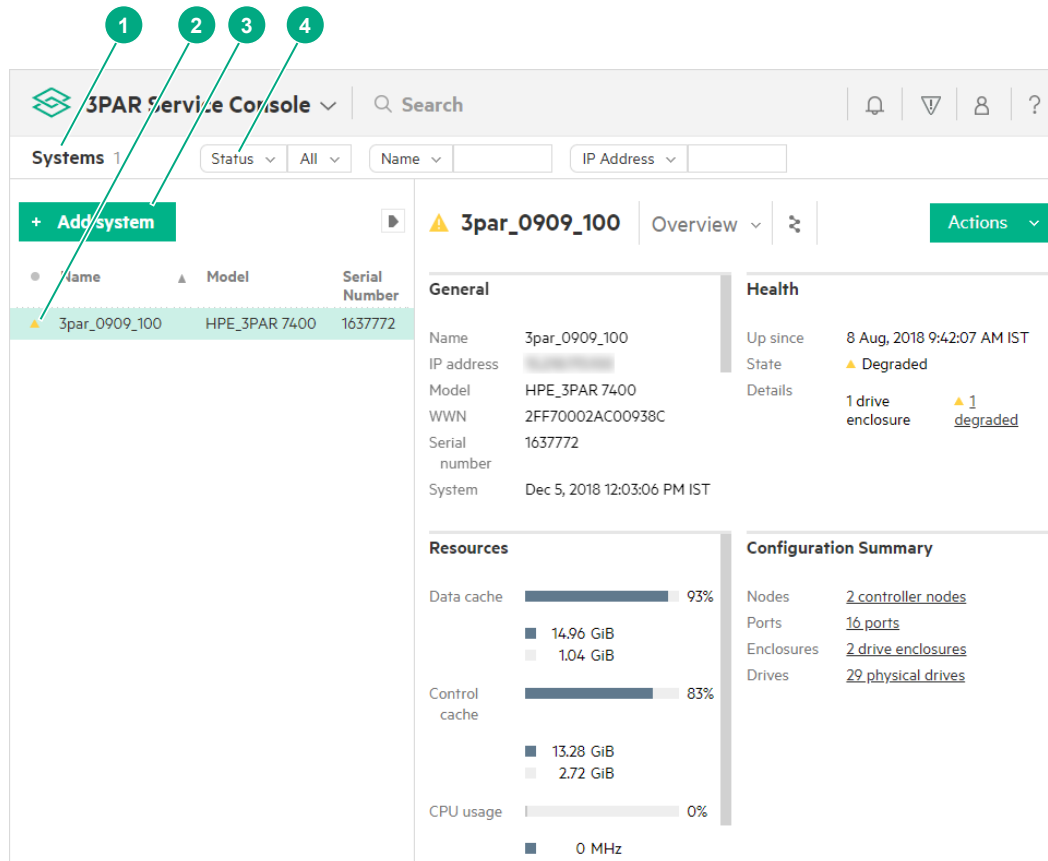
**More information**

**Task indicator and sidebar quick tour**

**Help sidebar quick tour** on page 16

## List panes quick tour

The main features of List panes include the following:



When you select an item in the List pane, additional information about it is displayed in the Detail pane. When an item is selected, you can perform actions on it. Many lists can be sorted and filtered and include multiple views that you can select.

**Resource name and count** (1) – The resource name and count are displayed at the top left of the pane. The count indicates the number of items in the list, based on the filters that are applied.

**Alert Indicator** (2) – The alert indicator displays the state of the system (resource) and can be red, yellow or green.

- Green implies that the health of the system is good and it does not require any updates.
- Yellow implies that the health of the system is degraded and it requires certain OS updates.
- Red implies that the health of the system is bad and it requires critical OS updates.

**Create/Add action (3)** – Clicking a **Create** or **Add** button in the List pane opens a dialog for creating a resource. You can also create resources and perform other actions from the Actions menu in the detail pane. If you do not have permission to create the resource, the create button and actions are not displayed.

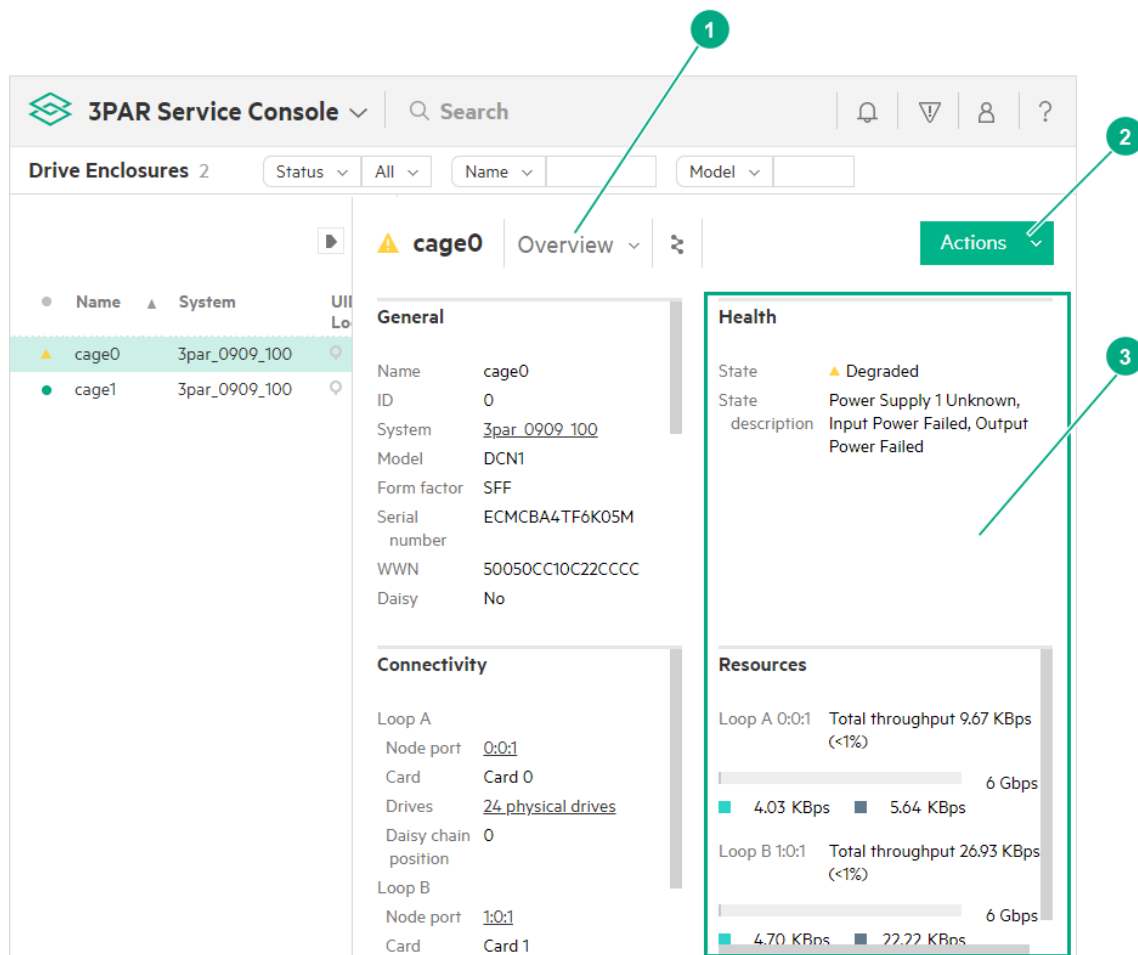
**Resource list and sorting (4)** – You can sort a list by clicking a column heading.

**More information**

[Detail panes quick tour](#) on page 13

## Detail panes quick tour

The main features of Detail panes include the following:




**Views (1)** – The Views menu identifies the currently selected view. Most List panes have several views that you can select. Clicking the down arrow (▼).

**Actions (2)** – The Actions menu allows you to perform actions on one or more resources that you have selected, in the list pane. If you do not have permission to perform an action, the action is not displayed in the menu. Also, some actions might not be displayed due to system configurations, user roles, or properties of the selected resource.

**Resource detail (3)** – Information for the selected view is displayed in the resource detail area.

## Filters quick tour

By default, filter menus are displayed horizontally at the top of list panes. Clicking a filter menu and changing a filter parameter changes the items that are displayed in the list. You can also display filters in a vertical

Filters sidebar by clicking the filter pin (  ) at the left side of the screen. Clicking the filter pin again changes the filters back to the horizontal format.

Activity 2

Filters

Systems:

Filter:

All

Needs attention

Type:

All

Alerts

Tasks

Status:

All

Critical

Warning

OK

Unknown

Activity state:

3PAR Service Console

localizedPortType:Host

Ports 5 matches

Status All Port Type Host Label

Reset

0:1:1

Overview

Port ID (N:S:P)	Label	System	Port Type	Port State	UID / Location
0:1:1	—	3par_0909_100	Host	Ready	
0:2:1	—	3par_0909_100	Host	Offline	
0:2:2	—	3par_0909_100	Host	Offline	
1:1:1	—	3par_0909_100	Host	Ready	
1:2:3	SharedFabric	3par_0909_100	Host	Ready	

General

Port ID (N:S:P)

0:1:1

System

3par\_0909\_100

Label

—

Node

1637772-0

Protocol

FC

Rate

8 Gbps

Adapter type

EMULEX LPe12002

CNA port

No

WWN

20110002AC00938C

Port type

Host

Mode

Target

Mode change

Allowed

Smart SAN

—

Zone name

—

Zone state

—

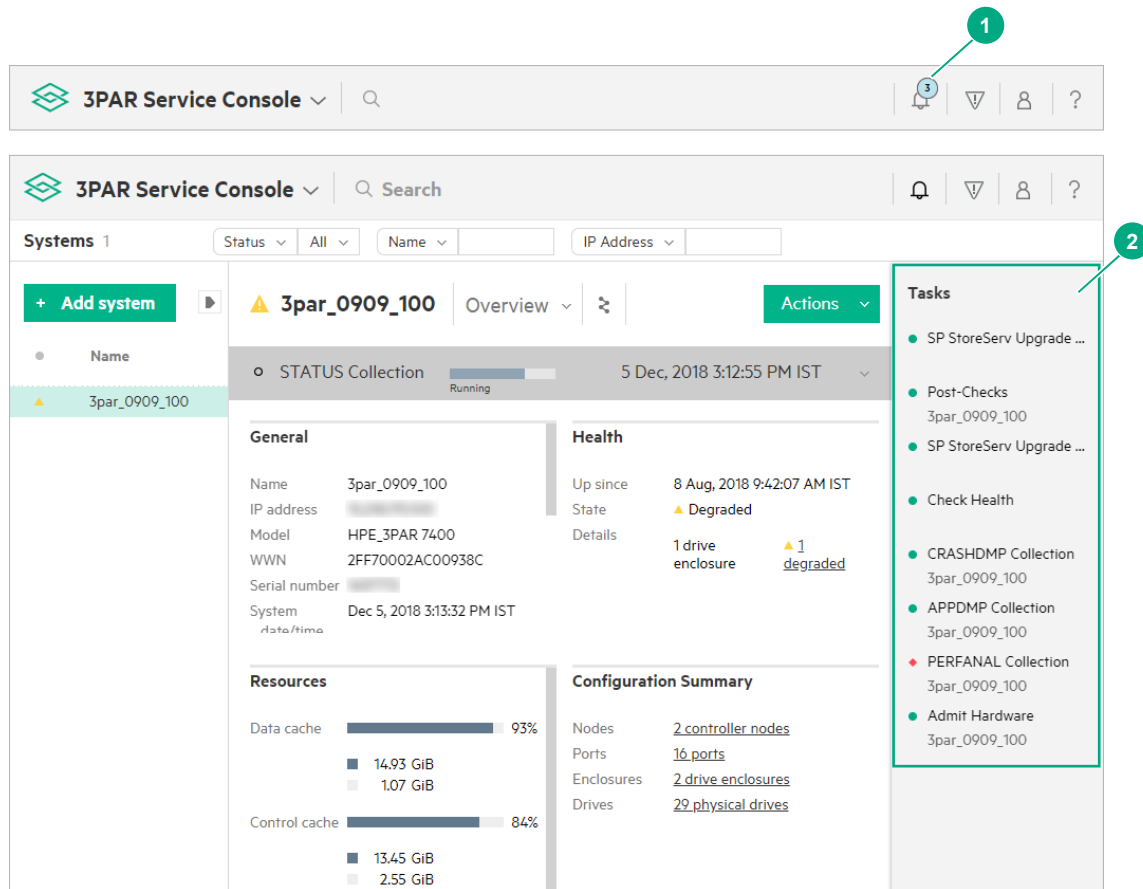
**Filters** – Filters apply only to the screen that you are viewing. For example, the Ports screen has filters for Status, Port Type, Host, and Label. As you select filter parameters, your choices are displayed on the filters

line, in menus, and in the Search box. In this example, a filter is set to display information for only Host ports. Filters can be reset by clicking the **Reset** link.

### More information

[Accessing the Search feature](#) on page 28

## Task indicator and sidebar quick tour

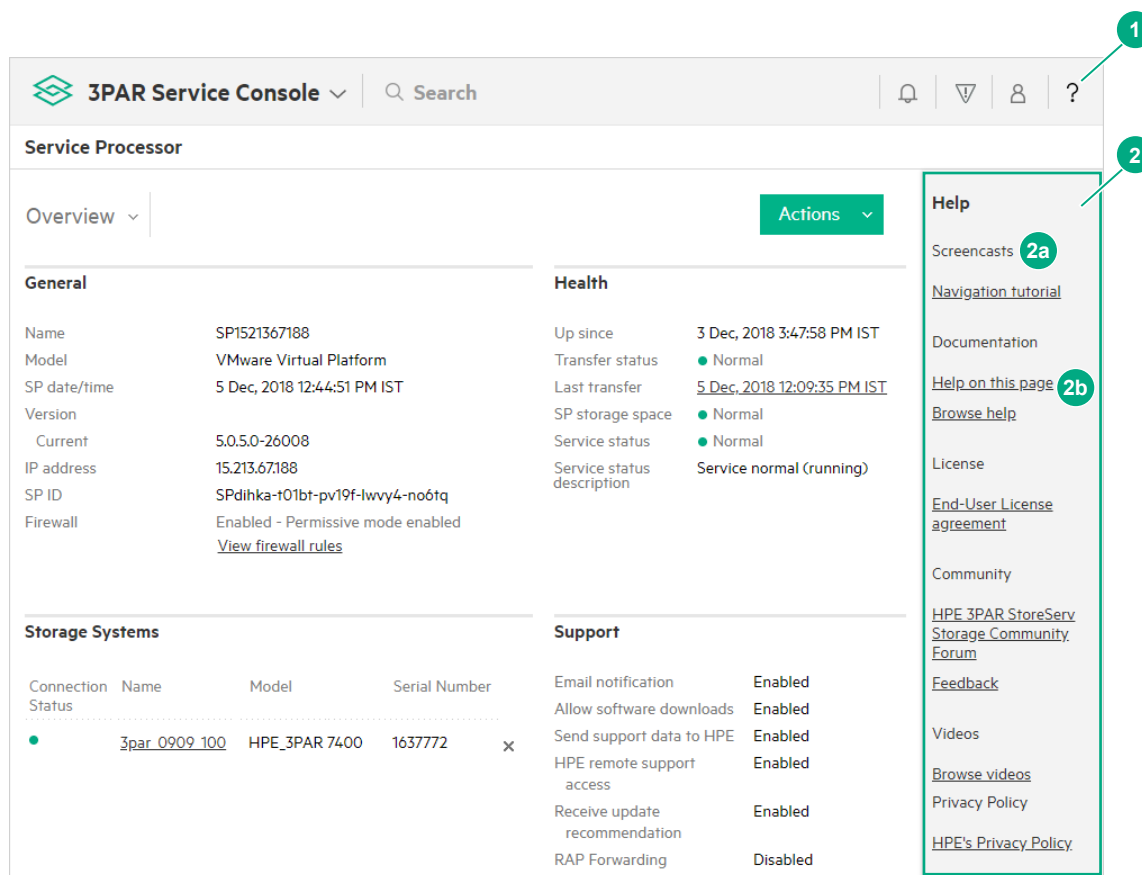


**Task indicator and sound (1)** – The Task indicator shows the number of unread tasks in the Tasks sidebar. When you initiate a task (for example, adding a virtual volume) a task notification is displayed briefly to the left of the icon and an alert sound is issued. You can enable and disable the alert notification sound on the Global Settings screen.

**Task sidebar (2)** – Clicking the **Tasks** icon opens the Task sidebar, which shows all the tasks that you have performed in the Service Console during the session. Clicking a task displays additional details.

**Tip:** The Task sidebar provides different information than the Task screen and Task Views. This sidebar shows only the tasks associated with your user name since your login session started. The Task screen and Task views show all user and system-generated tasks for the connected storage systems.

# Help sidebar quick tour



Clicking the Help icon (1) opens the Help sidebar (2).

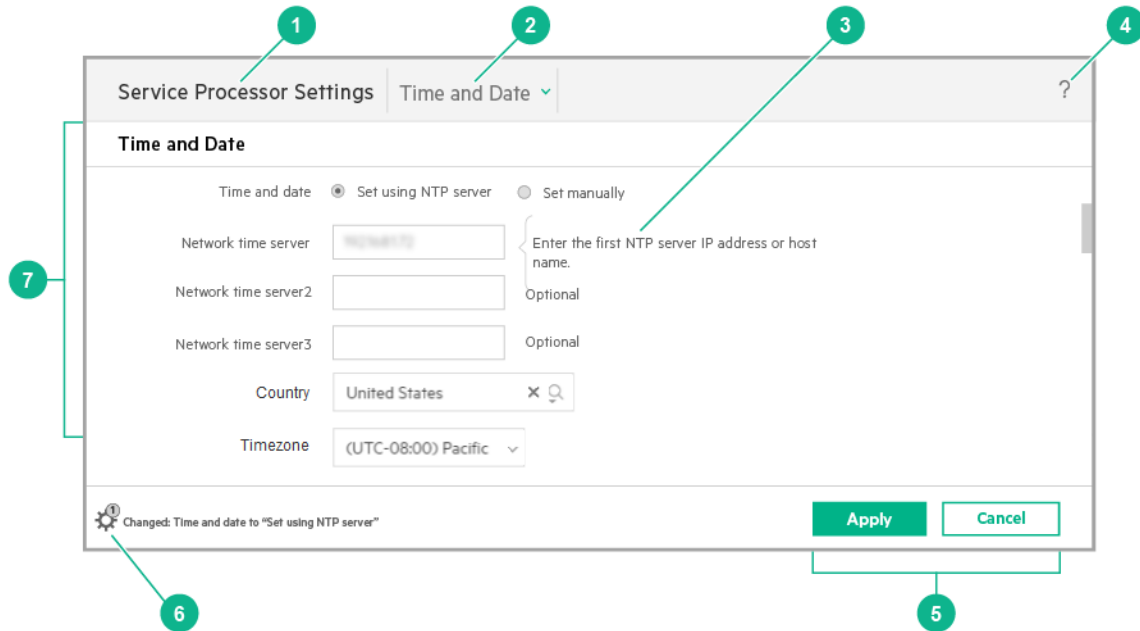
**Screencasts** (2a) – You can also choose to run interactive screencast tutorials.

**Online help** (2b) – You can choose to browse the entire help system, or open the help topic for the screen (page) that is currently displayed.

## Dialogs quick tour

Dialogs allow you to perform actions on resources. You can open dialogs from the Actions menu on the detail pane. The main features of dialogs include the following:





**Dialog name** (1) – The name of the dialog.

**Views** (2) – Many dialogs include a Views menu. Selecting a view positions the selected panel at the top of the dialog.

**Tooltips** (3) – Moving your cursor over a box or selection displays helpful information about making an entry or selection.

**Help** (4) – Clicking the Help icon (?) opens help for the dialog.

**Action buttons** (5) – Dialog actions are displayed at the bottom of the dialog. Clicking an action button performs the action and closes the dialog. Clicking an action + button performs the action and keeps the dialog open. Examples are buttons such as **Add +** and **Create +**.

**Changes indicator** (6) – The changes indicator shows how many changes you have made in the dialog and the last change you entered. Clicking the icon opens a window that displays all the changes you have entered in the dialog.

**Panels** (7) – Related settings are grouped in panels. You can scroll panels up or down by using the scroll menu on the right side of the dialog.

## General screens quick tour

General screens include the following pages:

**Activity** – Displays activities running on the Service Processor. You can expand activities to show details.

**Settings** – Allows you to view and change data display formats, advanced port actions, system tasks, and version and certificate information; display a confirmation dialog when you log out of a session, and create a custom login banner.



3PAR Service Console

Search

Systems 1

Status
All
Name
IP Address

+ Add system

Name	Model	Serial Number
3par_0909_100	HPE_3PAR 7400	1637772

3par\_0909\_100
Overview
Actions

General

Name 3par\_0909\_100  
IP address  
Model HPE\_3PAR 7400  
WWN  
Serial number

Resources

Data cache 94%  
14.99 GiB 1.01 GiB  
Control cache 85%  
13.57 GiB 2.43 GiB  
CPU usage 0%  
0 MHz 43.080 MHz

Health

Up since 8 Aug, 2018 9:42:07 AM IST  
State Degraded  
Details 1 drive enclosure 1 degraded

Configuration Summary

Nodes 2 controller nodes  
Ports 16 ports  
Enclosures 2 drive enclosures  
Drives 29 physical drives

**Controller Nodes** – Displays an overview of an attached storage system’s controller nodes.

**Ports** – Displays an overview of an attached storage system’s ports.

**Drive Enclosures** – Displays an overview of an attached storage system’s drive enclosures.

**Physical Drives** – Displays an overview of an attached storage system’s physical drives.

# Performing Service Console tasks

These topics provide guidance on performing tasks using HPE 3PAR Service Console. You can select individual topics from the contents pane.

## Setting up a Physical or Virtual Service Processor

### Accessing the Service Console setup screen

To set up the Service Processor, browse to the SP IP address: `https://<sp_ip_address>:8443`, then follow the instructions in [Connecting to the Service Processor](#) on page 20 .

❗ **IMPORTANT:** If you receive a warning from your browser when you enter the SP URL, see [Browser warning when connecting to the HPE 3PAR Service Processor](#) on page 80. Later, you will be able to install appropriate certificates so that you do not see the warning message in the future.

### Accessing the Service Console login screen

After the Service Processor has been initialized, you can log in to the Service Console by browsing to the SP IP address: `https://<sp_ip_address>:8443`.

Enter the user name and password, then click **Login**.

The Service Processor Overview screen is displayed by default.

## Connecting to the Service Processor

### Prerequisites

**Tip:** If you have already assigned an IP address to the Service Processor using the Text-based User Interface (TUI), follow the instructions in [Setting up the Service Processor](#) on page 21.

### Procedure

1. Connect to the Service Processor using the IP address assigned by DHCP or a local network using the format `https://<sp_ip_address>:8443`.
2. The End User License Agreement (EULA) is displayed. Click **Accept** to continue.
3. Click **Continue** to close the Guided Setup window.
4. Click the **Connect Service Processor** button.  
The **Service Processor Network Configuration** dialog displays.
5. Make any necessary changes to the Service Processor network configuration, and then click **OK**. Canceling returns you to the **Connect Service Processor** page.
6. If using a physical Service Processor, connect the Service Processor to your network using the SP Management (MGMT) port.
7. Browse to the IP address you assigned in the Service Processor Network Configuration dialog, and then follow the instructions in [Setting up the Service Processor](#) on page 21.

### More information

[The Text-based User Interface](#) on page 84

## Setting up the Service Processor

For information on prerequisites and initial setup of the SP, refer to the HPE 3PAR Service Console and HPE 3PAR StoreServ Management Console 3.1 Quick Setup Guide, available at the Hewlett Packard Enterprise Support Center website: <https://www.hpe.com/support/hpesc>.

---

**⚠ CAUTION:** Do not install the VSP on a host that is using storage from the same HPE 3PAR StoreServ Storage system as the SP manages. Connectivity to storage must be available to properly manage the array.

---

### Procedure

1. If you are not already in Guided Setup on the SP, browse to the SP IP address: **`https://<sp_ip_address>:8443`**.

You will see a Service Processor Setup page with a single button and the Guided Setup window open with step one completed and **Step 2 Setup the Service Processor** ready to begin by clicking **Continue** on the Guided Setup screen.

**Tip:** If you used the TUI to configure SP network settings and this is the first time you have logged in to the Service Console, the EULA is displayed. To continue, click **Accept**.

2. Click **Continue** to close the Guided Setup window.

3. Click **Setup Service Processor**.

4. Follow the instructions on the dialog that opens. You will be given the option of setting up a new uninitialized Service Processor or to restore the SP using a recovery file.

You will be able to follow the setup progress on the Service Processor Setup screen. The full list of initialization steps is displayed on the right side the screen with its current status, while the steps that have not yet been completed are listed on the left side of the screen.

**Tip:** If Setup remains incomplete due to an error, the checklist displays the error with a link to the section of the setup dialog related to the error condition.

5. Once Setup is complete, reboot the SP by clicking the **Reboot** link at the top of the screen. The SC should automatically reconnect to the login screen. Allow several minutes for the reboot.

### More information

**The Text-based User Interface** on page 84

---

**NOTE:** If you are using a Virtual machine, create a backup of your SP after completing the setup. See **Backing Up and Restoring the Virtual SP** for more information.

---

## Setting up the HPE 3PAR StoreServ Storage system

### Procedure

1. After the Service Processor reboots at the end of the setup process, you will be directed to the next step, setting up the SP IP address: **`https://<sp_ip_address>:8443`**.

You will see a Service Console login page with a single button and the Guided Setup window open for the first step.

2. Click **Continue**, enter the admin credentials you assigned during setup, and then click **Login**.

3. If no 3PAR StoreServ Storage system is added to the Service Console, you will be taken to the Systems page and the **Setup StoreServ** dialog opens with a Guided Setup window.

4. Click **Next** in the Guided Setup window.

Another Guided Setup window will display more information and instructions.

5. Click **Continue** to close the Guided Setup window.

You will then be able to fill in the required information for adding a StoreServ array. This includes accepting and caching a security certificate, entering system settings, date and time settings, StoreServ credentials, entering information about the installation site, and adding a system support contact.

6. Follow the instructions on the dialog that opens. You will have the option of adding a new uninitialized 3PAR StoreServ Storage system or one that has already been initialized.

7. Once you have completed filling in the required settings, click **Setup**.

A Guided Setup window will display information about the system setup process and how the process can be monitored.

You will be able to follow the setup progress on the **StoreServ Setup** screen, which is similar to the **Service Processor Setup** screen.

Once the setup is complete, a Guided Setup window will explain the next steps to take. Refer to the *HPE 3PAR Service Console and HPE 3PAR StoreServ Management Console 3.1 Quick Setup Guide* and *HPE 3PAR StoreServ Management Console 3.1 User Guide* for instructions on installing SSMC, creating hosts and virtual volumes (VVs), and exporting VVs.

**Tip:** If the Setup remains incomplete due to an error, the checklist displays the error with a link to the section of the setup dialog related to the error condition.

## Backing Up and Restoring the Virtual SP

You can use either the vSphere Client or Hyper-V to create a backup of the Virtual SP or restore it to a previous state. It is a best practice to backup after deploying and installing the Virtual SP. You can create more than one backup of the same Virtual SP, you can also create backups even if the Virtual SP is powered off.

The following sections describe how to backup the virtual SP and how to use a backup to restore the virtual SP to a previous state.

### Creating a Backup of the Virtual SP

#### Take a Snapshot using the vSphere Client

Take a Snapshot using the vSphere Client.

##### Procedure

1. In the vSphere Client, right-click the virtual SP, point to **Snapshot**, then click **Take Snapshot**.
2. In the **Take Virtual Machine Snapshot** dialog box, enter a name for the snapshot. Optionally, you can enter a description for your snapshot.
3. To capture the virtual SP's memory, click to select the **Snapshot the virtual machine's memory** check box.
4. To pause running processes on the virtual SP so that file system contents are in a known consistent state when the snapshot is taken, click to select the **Quiesce guest file system** check box. Make sure that the virtual SP is powered on, then click **Ok**.

In the Recent Tasks panel at the bottom of the vSphere Client window, you can view the list of successful snapshots.

How frequently you take a snapshot depends on how often you need to capture data from your logs.

## Take a Snapshot using Hyper-V

Taking a Snapshot on Windows Server 2008 or Windows Server 2012

### Procedure

1. In the Server Manager application, click **Roles**, click **Hyper-V**, then click **Hyper-V Manager**. Expand the **Virtual Machines** list.
2. Right-click the name of your virtual machine (VM), then select the **Snapshot** option. When you do this, a snapshot of the VSP is created and is given an automatically generated name.

After you create a snapshot, you can view it in the **Snapshots** pane of the Hyper-V Manager by selecting the VM that the snapshot is associated with. Snapshots are displayed in the **Snapshots** pane in the order in which they were taken. The latest snapshot to be taken or to be applied to the VM is indicated by a green arrow.

## Creating a Checkpoint using Hyper-V

Creating a Checkpoint on Windows Server 2012 R2

### Procedure

1. In the Server Manager application, click **Roles**, click **Hyper-V**, then click **Hyper-V Manager**. Expand the **Virtual Machines** list.
2. Right-click the name of your virtual machine (VM), then select the **Checkpoint** option. When you do this, a checkpoint of the VSP is created and is given an automatically generated name.

## Restoring the Virtual SP from a Backup

### Restore the Virtual SP using the vSphere Client

#### Procedure

1. In the vSphere Client, right-click your virtual SP, point to **Snapshot**, then click **Snapshot Manager**.
2. The hierarchy that appears in the left navigation pane shows the virtual SP snapshots that have been taken. Select the snapshot that you want to restore, then click **Go to**.
3. When you are prompted to revert to the snapshot that you selected, click **Yes**.

## Restore a Snapshot Using Hyper-V

For Windows Server 2008 or Windows Server 2012

### Procedure

1. In the Server Manager application, click **Roles**, click **Hyper-V**, then click **Hyper-V Manager**. Expand the **Virtual Machines** list.
2. Right-click the snapshot that you want to use. The following message appears: Are you sure you want to apply the selected snapshot? The virtual machine's current state will be lost.

Click **Take Snapshot and Apply** or **Apply**, as appropriate for your situation.

## Restore a Checkpoint using Hyper-V

For Windows Server 2012 R2

### Procedure

1. In the Server Manager application, click **Roles**, click **Hyper-V**, then click **Hyper-V Manager**. Expand the **Virtual Machines** list.
2. Right-click the checkpoint that you want to use. The following message appears: Are you sure you want to apply the selected checkpoint? The virtual machine's current state will be lost.

Click **Apply**.

## Performing General tasks


The tasks described in this topic relate to screens accessed under the GENERAL heading on the Service Console main menu.

### Accessing the Activity page

On the main menu, select **Activity**.

### Accessing the Settings page

#### Procedure

1. On the main menu, select **Settings**.
2. Hover over the **Formats**, **Preferences**, or **Application** panel, and then click the Edit icon (  ).
3. Follow the instructions on the dialog that opens.

You can change the following settings:

#### Display formats

- Capacity (default is GiB)
- Date and time (default is long display)
- WWNs (default is 0F0F0F0F0F0F0F0F)

#### Preferences

- Display confirmation dialog when logging out of session (default is No)
- Play a unique sound when an activity notification is displayed in the Activity bar (default is No)
- Display system tasks and schedules when filtering by All types (default is No)
- Enable access to advanced actions in Actions menus (default is No)


#### Application



- Select whether to use a self-signed or CA-signed certificate
- Generate a Certificate Signing Request
- Import a certificate

## Generating a Certificate Signing Request


### Procedure

1. On the main menu, select **Settings**.
2. Click the Edit icon (  ) next to Application.
3. Select **CA signed** as the **Certificate Type**.
4. Click **Certificate Signing Request**.
5. Follow the instructions on the dialog that opens.

Once you receive the signed certificate and CA chain from the Certificate Authority, follow the instructions in [Importing a signed certificate and certificate chain](#) on page 25 to import the certificate.

## Importing a signed certificate and certificate chain

### Procedure

1. On the main menu, select **Settings**.
2. Click the Edit icon (  ) next to Application.
3. Select **CA signed** as the **Certificate Type**.
4. Click **Import Certificate**.
5. Paste the signed certificate and CA chain into the textbox and click **Import**.
6. On the Edit Application screen, click **OK** to complete the import of the certificate.
7. Navigate to the Service Processor screen and select **Reboot** from the Actions menu.
8. After the SP has rebooted, verify the Service Console is using the new certificate. The following steps describe how to view the certificate in Internet Explorer:
  - a. Click the lock icon in your browser's URL bar.
  - b. Click **View certificates**.

The CSR dialog will keep the last CSR and the information used to create it until a new CSR is generated.

## Accessing the Contacts page

### Procedure

1. On the main menu, select **Contacts**.
2. Do one of the following:

- On the **Actions** menu, select **Create**, or in the list pane click **+ Create Contact**.
- On the **Actions** menu, select **Edit**.
- On the **Actions** menu, select **Delete**.

**Tip:** The Delete action will not be available if the only contact in the list is a support contact.

3. Follow the instructions on the dialog that opens.

## Accessing the Files page

### Procedure

1. On the main menu, select **Files**.
2. Do one of the following:
  - On the **Actions** menu, select **Transfer to HPE Support**.
  - On the **Actions** menu, select **Download**.
3. Follow the instructions on the dialog that opens.

## Retrieving the weekly HPE 3PAR Storage System configuration and error files

The HPE 3PAR Service Processor gathers HPE 3PAR Storage System configuration and error information and stores this information as files on the Service Processor. Once a week, the SP compresses and zips these files into a single weekly file. The weekly file can be retrieved from the SP and transmitted to HPE through email or FTP. These instructions explain how to retrieve and transfer these files.

### Prerequisites

- Permissive mode for the SP firewall is enabled, or,
- Workstation IP address is included in the SP firewall rules

### Procedure

1. On the main menu, select **Files**.
2. Look for the file labeled `3PAR_weekly_XXXXXX_yymmdd_hhmmss.tbz2` where:
  - `XXXXXX`-HPE 3PAR Storage System serial number
  - `yymmdd`Date stamp
  - `hhmmss`-Time stamp

For example: `3PAR_weekly_4UW0001166_180521_225516.tbz2`.

3. On the **Actions** menu, select **Download**.  
The file is saved to your downloads directory.

## Transferring the weekly HPE 3PAR Storage System configuration and error files

After retrieving the weekly file, you can email or FTP the file to HPE 3PAR Support.

### Prerequisites

- File must be placed in the root folder.
- File name must match one of the following formats:
  - 3PAR\_weekly\_SERIALNUMBER\_YYMMDD\_HHMMSS.tbz2
  - HPE\_weekly\_SERIALNUMBER\_YYMMDD\_HHMMSS.tbz2

For example, if the serial number is 1234567 and the file was generated on December 23, 2017 at 3:45 PM, the file name would be 3PAR\_weekly\_1234567\_171223\_154500.tbz2.

### Procedure

#### 1. Choose one of the following methods:

- Email the file as an attachment to [spweekly@hpe.com](mailto:spweekly@hpe.com).
- FTP the file to HPE 3PAR Support.
  - a. Obtain the FTP site credentials provided by HPE 3PAR Support including drop box location, user ID, and password.
  - b. Using an FTP client, log in to the FTP server with the supplied credentials.

For example, logging into the FTP server using command-line commands, the following information displays:

```
-----
                        H P R C   F T P   S e r v e r
-----
Welcome to Hewlett Packard Enterprise's file transfer service.
Use of this service requires agreement with
Hewlett Packard Enterprise representatives and implies
consent to the Terms of Use
(see http://ftp.ext.hpe.com/TermsOfService.html) .

      You are user #80 at Tue May 29 20:29:43 2018.
-----
NOTE:  If your FTP client implementation supports PASSIVE
       mode, it is recommended that you enable it prior to
       continuing.
-----
```

- c. Select binary file transfer. For example, using the command line, enter **bin**.
- d. Transfer the file. For example, using the command line, enter **put** and the file name.

Example:

```
ftp>
ftp> bin
```

```

200 Type set to I
ftp>
ftp> put 3PAR_weekly_1234567_180530_055338.tbz2
200 PORT command successful
150 Opening BINARY mode data connection for 3PAR_weekly_1234567_180530_055338.tbz2
226 Transfer complete
65218444 bytes sent in 40 seconds (1632286 bytes/s)

```

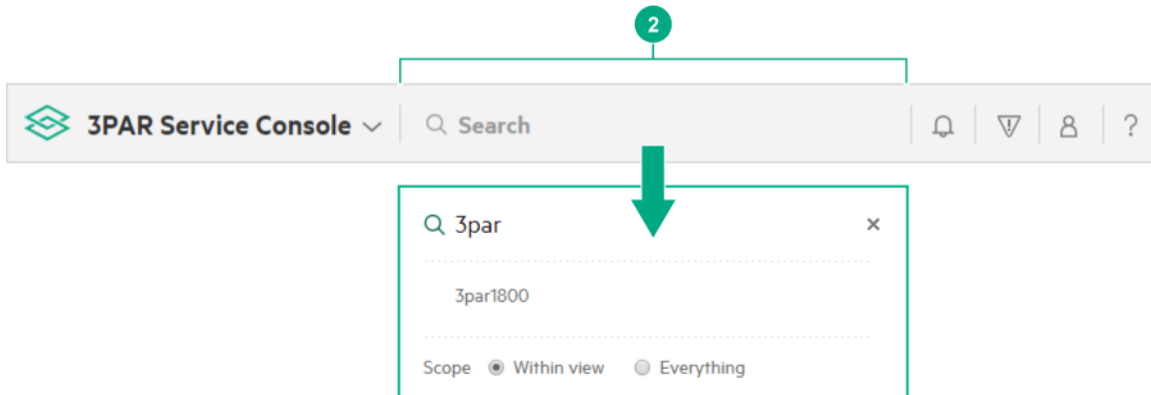
- e. To exit the FTP process using the command line, enter **quit**.

The file will be automatically processed and manually reviewed by HPE 3PAR Support.

## Accessing the Search feature

### Procedure

1. Click the banner search area to open the search box.



Search behavior is based on the screen that you are viewing. For most screens, you can choose whether the search scope is for items in the current screen or for items in all screens.

2. As you type, a list of up to ten search results is shown in the search box. Press **Enter** to complete your entry or select (click) a search result.

### Tips:

- To close the search box, click anywhere outside the box.
- To clear a search entry, click inside the search box, and then click the clearing icon (✕).
- Previous search entries, if any, are shown near the bottom of the search box.
- To search for a port ID, you must precede the colons in the port ID with a backslash (\) character. For example, to search for port 0:1:2, enter 0\:1\:2.

### Screen-specific searches

When searching a specific screen, the screen is filtered to show only the items that matched your search. Your search entry continues to be shown until you perform another search. A results indicator below the banner shows the number of items that matched your search, out of the total items searched.

### Everything searches

For a search of **everything**, the search results are listed on the Search screen. The search results identify the screen in which the item is located, the item name, and, if applicable, the database field. Clicking anywhere on a search result displays the item in the appropriate screen.

### Create-dialog searches

You can search for and open dialogs that create resources. For example, when viewing the Contacts screen, if you type create in the Search box, the search result list includes the item contacts: create contact. Clicking the item opens the **Create Contact** dialog.

If you perform a create-dialog search with a scope of **everything**, then all creation dialogs are listed.

**Tip:** If there are many alerts, tasks, or resources that contain the word create, you can often narrow the results by typing the word create followed by a space ("**create** ").

## Performing Service Processor tasks

The tasks described in this topic relate to the Service Processor screen, which is accessed under the SERVICE heading on the Service Console main menu.

### Editing the SP configuration

#### Procedure

1. On the main menu, select **Service Processor**.
2. On the **Actions** menu, select **Edit SP configuration**.
3. Follow the instructions on the dialog that opens.

### Changing the Service Processor Administrator Password

To change the SP administrator password using the SP console, perform the following steps:

#### Prerequisites

You know the current Service Processor (SP) administrator password.

#### Procedure

1. On the **Actions** menu, select **Edit SP configuration**.  
The "Service Processor Settings" dialog appears.
2. Enter the current and new password values in the **Credentials** section, and choose **Ok**.

---

**NOTE:** The characters entered in **New admin password** and **Confirm password** must be the same and entered cautiously.

---

A **warning** appears telling that the credentials have been changed and you will be redirected to the Service Console Login Page. Click **Ok** in this dialog.

### Adding firewall rules

#### Procedure

1. On the main menu, select **Service Processor**.
2. On the **Actions** menu, select **Edit SP configuration**.

3. Click **Add** under the **Server Processor Firewall** heading.
4. Enter the IP addresses this rule applies to.
5. Enter the interface type (public or private).
6. Click **Add +** to add another IP rule and keep the dialog open, or click **Add** to add the rule and close the dialog.

## Disabling remote support after setup

- !** **IMPORTANT:** Disabling remote support is not recommended. If enabled, the SP sends collected support data to Hewlett Packard Enterprise. Disabling this feature (not recommended) will prevent HPE Support from receiving any data from your system and disable HPE remote support access and software downloads to your system. No alert notifications will be sent to HPE when this feature is disabled.

### Procedure

1. On the main menu, select **Service Processor**.
2. On the **Actions** menu, select **Edit SP configuration**.
3. In the Support section of the **Service Processor Settings** dialog, toggle **Send support data to HPE** and **HPE remote support access** to **Disabled**.

## Switching the transport agent from SSA to RDA

Perform the following procedure to switch the transport agent from SSA to RDA:

### Prerequisites

- You have access to the Service Console as an HPE partner.
- You have the firewall and port information. See [Firewall and proxy server configuration](#)

### Procedure

1. Log on to the Service Console as 'hpepartner'.
2. Click on **Actions > Edit SP Configuration**
3. Under the **Support** menu, change the Transport Agent from SSA to RDA.
4. Click **OK**.
5. Test the connectivity to confirm if you are successfully connected to RDA:

On the Service Console, access the **Service Processor** Overview page, and click on **Actions > Test SP connectivity**.

## Enabling/Disabling RAP forwarding

Disabling remote support gives you the option of enabling Real-time Alert Processing (RAP) forwarding. When enabled, RAP forwarding allows the system to email HPE support copies of all notification messages sent to subscribers. Enabling this option also adds the mail host name/IP, mail domain, and send test email options to the support settings section.

To enable RAP forwarding:

1. On the main menu, select **Service Processor**.
2. In the Support section of the **Service Processor Settings** dialog, set the **Send support data to HPE** toggle to **Disabled**.
3. Set the **RAP forwarding** toggle to **Enabled**.

To disable RAP forwarding:

1. On the main menu, select **Service Processor**.
2. In the Support section of the **Service Processor Settings** dialog, set the **RAP forwarding** toggle to **Disabled** or set **Send support data to HPE** toggle to **Enabled**.

## Collecting support data (SP)

### Procedure

1. On the main menu, select **Service Processor**.
2. On the **Actions** menu, select **Collect support data**.
3. Follow the instructions on the dialog that opens.

## Testing SP connectivity

### Procedure

1. On the main menu, select **Service Processor**.
2. On the **Actions** menu, select **Test SP connectivity**.
3. (Optional) Switch to Activity view to monitor the task's progress.

## Cleaning up SP files

### Procedure

1. On the main menu, select **Service Processor**.
2. On the **Actions** menu, select **Cleanup SP files**.
3. Follow the instructions on the dialog that opens.

## Updating the SP

### Prerequisites

Follow the steps in the *HPE 3PAR OS and Service Processor Software Update Guide* for detailed information.

### Procedure

1. On the main menu, select **Service Processor**.
2. On the **Actions** menu, select **Update**.
3. Follow the instructions on the dialog that opens.

## Unmounting the SP DVD drive

The SP DVD should automatically mount and unmount when used to update the SP or to load a recovery file. However, if the unmount fails, you can manually unmount the DVD using the Service Console.

### Procedure

1. On the main menu, select **Service Processor**.
2. On the **Actions** menu, select **Unmount SP DVD drive**.
3. Follow the instructions on the dialog that opens.

If no DVD is mounted, the action returns a message indicating that no DVD is mounted on the Service Processor.

## Setting the HPE Support password

Only the Administrator can set the `hpesupport` password option for either a time-based or encryption-based password.

### Procedure

1. On the main menu, select **Service Processor**.
2. On the **Actions** menu, select **HPE Support password**.
3. Follow the instructions on the dialog that opens.

## Backing up SP recovery data

In the event a Service Processor system fails and needs to be replaced with a new SP system, a recovery file containing the previous SP's configuration information can be used to restore some information to the SP. The SP backs up the SP configuration information periodically and whenever there is a configuration change on the SP, and then sends it to HPE. You can also back up the recovery data manually.

### Procedure

1. On the main menu, select **Service Processor**.
2. On the **Actions** menu, select **Backup SP recovery data**.
3. Follow the instructions on the dialog that opens.

## Shutting down the SP

---

**NOTE:** The SP cannot be shut down from the Actions menu while an update is in progress.

---



### Procedure

1. On the main menu, select **Service Processor**.
2. On the **Actions** menu, select **Shutdown**.
3. Follow the instructions on the dialog that opens.

## Rebooting the SP

---

**NOTE:** The SP cannot be rebooted from the Actions menu while an update is in progress.

---

### Procedure

1. On the main menu, select **Service Processor**.
2. On the **Actions** menu, select **Reboot**.
3. Follow the instructions on the dialog that opens.

## Performing Storage System Tasks

The tasks described in this topic relate to screens accessed under the SYSTEMS heading on the Service Console main menu.

## Performing Systems screen tasks

### Editing system configuration

#### Procedure

1. On the main menu, select **Systems**.
2. On the **Actions** menu, select **Edit**.
3. Follow the instructions on the dialog that opens.

### Locating a system (turning on the Locate LED)

#### Procedure


1. On the main menu, select **Systems**.
2. On the **Actions** menu, select **Locate**.

You can also locate a system by clicking the locate (  ) icon in the list pane of the Systems page.

### Stopping the locate task (turning off the Locate LED)

#### Procedure

1. On the main menu, select **Systems**.
2. On the **Actions** menu, select **Stop locate**.

You can also stop the locate task by clicking locate (  ).


## Editing system information

### Procedure

1. On the main menu, select **Systems**.
2. On the **Actions** menu, select **Edit system**.
3. Follow the instructions on the dialog that opens.

## Adding HPE InfoSight Cross Stack Analytics

You can add/edit/remove a vCenter through the **Edit system** dialog. You also have the option of adding a vCenter at the time you add an HPE 3PAR StoreServ Storage system.

For information on settings that can be configured through the **Edit system** dialog, click the Help icon (  ) in the upper right corner of the dialog.

### Procedure

1. On the main menu, select **Systems**.
2. On the **Actions** menu, select **Edit system**.
3. Scroll down to the Cross Stack Analytics section of the dialog that opens and follow the instructions.

## Adding a system

To add an HPE 3PAR StoreServ Storage system to the Service Console:

### Prerequisites

The following information is required to initialize an HPE 3PAR StoreServ Storage system:

**StoreServ serial number** – Serial number of the HPE 3PAR StoreServ Storage system being added to the SP. The number must be validated to generate a link-local IP address, connect to the StoreServ, and receive information about the StoreServ. If the serial number is entered in an incorrect format, a field discovery error is displayed.

**System settings** – HPE 3PAR StoreServ Storage system name and IP address, DNS, Time and Date, and 3paradm user password. The password is limited to 31 characters and can be alpha-numerical plus the following characters: +, -, \_, \*, @

**Installation site** – Information about the site where the StoreServ is installed.

**Support contacts** – Contact information for Hewlett Packard Enterprise support to contact for the system. In addition, contacts who will receive email notifications of system alerts. At least one system support contact must be provided to Hewlett Packard Enterprise support for each system.

**Cross Stack Analytics** (Required if adding a vCenter data collection) – Information for adding vCenter instances for use with HPE InfoSight Cross Stack Analytics for VMware. Add vCenter entries when adding a StoreServ Storage system or when editing an existing StoreServ Storage system.

### Procedure

1. On the main menu, select **Systems**.
2. On the **Actions** menu, select **Add system**.
3. Follow the instructions on the dialog that opens.

## Collecting support data (system)

### Procedure

1. On the main menu, select **Systems**.
2. On the **Actions** menu, select **Collect support data**.
3. Follow the instructions on the dialog that opens.
  - a. To collect support data from the last time the weekly files were run up to the current time, select **Weekly** and click **Collect**.

A new activity `SPWEEKLY Collection` is started.
  - b. After the activity is completed, see [Retrieving the weekly HPE 3PAR Storage System configuration and error files](#) on page 26.

## Starting a CLI session

---

**NOTE:** Only CLI commands that do not require user input can be used in the CLI session dialog.

---

### Prerequisites

Ensure that maintenance mode is enabled before executing CLI commands for maintenance related activities.

### Procedure

1. On the main menu, select **Systems**.
2. On the **Actions** menu, select **Start CLI session**.
3. Follow the instructions on the dialog that opens.

## Checking the health of a system

### Procedure

1. On the main menu, select **Systems**.
2. On the **Actions** menu, select **Check health**.
3. Follow the instructions on the dialog that opens.

## Updating the HPE 3PAR OS

---

**NOTE:** If you want to check the status of the host connections before or after the update, follow the instructions in [Checking host connections](#) on page 36.

---

### Prerequisites

- For 3PAR StoreServ 10000 and 20000 systems, you must be logged in as **hpesupport** or **hpepartner** to update the OS.
- Follow the steps in the *HPE 3PAR OS and Service Processor Software Update Guide* for detailed information.

### Procedure

1. On the main menu, select **Systems**.
2. On the **Actions** menu, select **Update HPE 3PAR OS**.
3. Follow the instructions on the dialog that opens.

## Checking host connections

### Procedure

1. Log in to the HPE 3PAR StoreServ Storage system using SSMC.
2. In the upper right corner of the main menu, click **Show all**.
3. Under the SECURITY heading, click **Connections**.


## Running post update checks

### Procedure

1. On the main menu, select **Systems**.
2. On the **Actions** menu, select **Post update checks**.
3. Follow the instructions on the dialog that opens.

## Running update firmware

---

 **CAUTION: Update Firmware** updates firmware on new and existing hardware. It should be run after software updates are complete.

---

### Procedure

1. On the main menu, select **Systems**.
2. On the **Actions** menu, select **Update Firmware**.
3. Follow the instructions on the dialog that opens.

## Setting maintenance mode


### Procedure

1. On the main menu, select **Systems**.
2. On the **Actions** menu, select **Set maintenance mode**.
3. Follow the instructions on the dialog that opens.

**Tip:** When the system is in maintenance mode, the General pane will indicate the system is in maintenance mode.


## Editing a maintenance window

### Procedure

1. On the main menu, select **Systems**.
2. On the **Actions** menu, select **Set maintenance mode**.
3. Select a maintenance window, and then click the Edit icon (  ) next to it.
4. Follow the instructions on the dialog that opens.

## Deleting a maintenance window

### Procedure

1. On the main menu, select **Systems**.
2. On the **Actions** menu, select **Set maintenance mode**.
3. Select a maintenance window, and then click the Delete icon (  ) next to it.

## Removing a system

---


**NOTE:** This disconnects a StoreServ system from the SP, but it does not alter or remove the StoreServ system.

---

### Procedure

1. On the main menu, select **Systems**.
2. On the **Actions** menu, select **Remove system**.
3. Follow the instructions on the dialog that opens.

## Rebooting a system

 **CAUTION:** Choosing **All Nodes** will result in a complete StoreServ system outage and the loss of connectivity to the system.

Rebooting a single node will cause a performance degradation of the system. It may also cause an outage if host connectivity is not properly configured.

---

---


**NOTE:** The system cannot be rebooted from the Actions menu while an update is in progress.

---

#### Procedure

1. On the main menu, select **Systems**.
2. On the **Actions** menu, select **Reboot**.
3. Follow the instructions on the dialog that opens.

## Shutting down a system

 **CAUTION:** Shutdown for a node should only be used at the time service is going to be performed on a node. Restarting a node requires the node to be physically power cycled.

Choosing **All Nodes** will result in the loss of connectivity and system outage, and you will need to restart the system by power cycling all nodes in the cluster.

Shutting down a single node will cause a performance degradation of the system. It may also cause an outage if host connectivity is not properly configured.

---

**NOTE:** The system cannot be shut down from the Actions menu while an update is in progress.

---

#### Procedure

1. On the main menu, select **Systems**.
2. On the **Actions** menu, select **Shutdown**.
3. Follow the instructions on the dialog that opens.

## Adding a license

#### Procedure


1. On the main menu, select **Systems**.
2. On the **Actions** menu, select **Add license**.
3. Follow the instructions on the dialog that opens.

## Performing Controller Nodes screen tasks

### Locating controller nodes (turning on the Locate LED)

#### Procedure


1. On the main menu, select **Controller Nodes**.
2. On the **Actions** menu, select **Locate**.

You can also locate a controller node by clicking the locate (  ) icon in the list pane of the **Controller Nodes** page, or by looking in the **Schematic** view.

## Stopping the locate task (turning off the Locate LED)

### Procedure

1. On the main menu, select **Controller Nodes**.
2. On the **Actions** menu, select **Stop locate**.

You can also stop the locate task by clicking locate (  ).

## Showing the battery test log

This action can only be performed on HPE 3PAR StoreServ 20000, 10000 and 9000 Storage systems.

### Procedure

1. On the main menu, select **Controller Nodes**.
2. On the **Actions** menu, select **Show battery test log**.
3. Follow the instructions on the dialog that opens.

## Resetting the battery test log


This action can only be performed on HPE 3PAR StoreServ 20000, 10000 and 9000 Storage systems.

### Procedure

1. On the main menu, select **Controller Nodes**.
2. On the **Actions** menu, select **Reset battery test log**.
3. Follow the instructions on the dialog that opens.

## Rebooting a node

---

 **CAUTION:** Rebooting a node will cause a performance degradation of the system. It may also cause an outage if host connectivity is not properly configured.

---

**NOTE:** A controller node cannot be rebooted from the Actions menu while an update is in progress.

---

### Procedure

1. On the main menu, select **Controller Nodes**.
2. Select a node in the list pane.
3. On the **Actions** menu, select **Reboot**.
4. Follow the instructions on the dialog that opens.

## Shutting down a node



**CAUTION:** Shutdown should only be used at the time service is going to be performed on a node. Restarting a node requires the node to be physically power cycled.

Shutting down single node will cause a performance degradation of the system. It may also cause an outage if host connectivity is not properly configured.

---

**NOTE:** A controller node cannot be shut down from the Actions menu while an update is in progress.

---

### Procedure

1. On the main menu, select **Controller Nodes**.
2. Select a node in the list pane.
3. On the **Actions** menu, select **Shutdown**.
4. Follow the instructions on the dialog that opens.

## Performing Ports screen tasks

### Editing port settings

#### Procedure

1. On the main menu, select **Ports**.
2. On the **Actions** menu, select **Edit**.
3. Follow the instructions on the dialog that opens.

### Editing port labels

#### Procedure

1. On the main menu, select **Ports**.
2. On the **Actions** menu, select **Edit label**.
3. Follow the instructions on the dialog that opens.

### Disabling a port

#### Procedure

1. On the main menu, select **Ports**.
2. On the **Actions** menu, select **Disable**.
3. Follow the instructions on the dialog that opens.



## Enabling a port

### Procedure

1. On the main menu, select **Ports**.
2. On the **Actions** menu, select **Enable**.
3. Follow the instructions on the dialog that opens.

## Initializing a port

### Procedure

1. On the main menu, select **Ports**.
2. On the **Actions** menu, select **Initialize**.
3. Follow the instructions on the dialog that opens.

## Clearing a port

### Procedure

1. On the main menu, select **Ports**.
2. On the **Actions** menu, select **Clear**.
3. Follow the instructions on the dialog that opens.

## Reloading firmware

### Procedure

1. On the main menu, select **Ports**.
2. On the **Actions** menu, select **Reload firmware**.
3. Follow the instructions on the dialog that opens.

## Syncing to a name server

### Procedure

1. On the main menu, select **Ports**.
2. On the **Actions** menu, select **Sync to name server**.
3. Follow the instructions on the dialog that opens.

## Pinging a port

This operation is allowed for RCIP and iSCSI ports only.

### Procedure

1. On the main menu, select **Ports**.
2. On the **Actions** menu, select **Ping**.
3. Follow the instructions on the dialog that opens.

## Performing Drive Enclosures screen tasks

### Editing drive enclosure settings


#### Procedure


1. On the main menu, select **Drive Enclosures**.
2. On the **Actions** menu, select **Edit**.
3. Follow the instructions on the dialog that opens.

### Locating drive enclosures (turning on the Locate LED)

#### Procedure

1. On the main menu, select **Drive Enclosures**.
2. To locate a drive enclosure, select **Locate** on the **Actions** menu.

You can also locate a drive enclosure by clicking the locate (  ) icon in the list pane of the **Drive Enclosures** page.

To locate a magazine, select the **Magazine** view on the detail pane, find the magazine in the list, and then click its LED icon (  ).

You can also locate a magazine using the **Schematic** view.

---


**NOTE:** For StoreServ systems that contain single-drive magazines (all models except the 10000), drive and magazine are the same.

---

### Stopping the locate task (turning off the Locate LED)

#### Procedure

1. On the main menu, select **Drive Enclosures**.
2. On the **Actions** menu, select **Stop locate**.


You can also stop the locate task by clicking locate (  ).

## Performing Physical Drives screen tasks

## Locating physical drives (turning on the Locate LED)

### Procedure


1. On the main menu, select **Physical Drives**.
2. On the **Actions** menu, select **Locate**.

You can also locate a drive by clicking the locate (  ) icon in the list pane of the **Physical Drives** page, or by looking in the **Schematic** view.

## Stopping the locate task (turning off the Locate LED)

### Procedure

1. On the main menu, select **Physical Drives**.
2. On the **Actions** menu, select **Stop locate**.

You can also stop the locate task by clicking locate (  ).

# Service Console concepts

These topics explain key concepts for HPE 3PAR Service Console features.

## Service Processor setup

The Service Processor comes preinstalled with a Service Console text-based tool that is run automatically when you log in to the Linux console as `admin`. There is initially no password for `admin`. The script lets you set the IP address of the SP. You can also see the current IP if DHCP is enabled on the network.

The preferred setup method is to connect to the SP's preconfigured, nonroutable IP address through a local network using a browser. In this case, Guided Setup will start automatically for new SPs.

Once the Service Processor is connected to the network, you can then use this IP address to connect to the Service Processor through a browser.

### More information

[The Text-based User Interface](#) on page 84

## SP Service Console CA-signed certificates

During SP installation, a self-signed SSL certificate is created for the Service Console web server to use. Most environments do not want or allow servers to use self-signed certificates. All browsers flag/warn and possibly refuse to connect when a server is using a self-signed certificate, or certificate that is not signed by a trusted Certificate Authority (CA) that is installed in the user's browser. You must install the certificate on each browser that you use to connect to the Service Console.

The Service Console allows you to install your own SSL certificate for the SP web server. In most cases this will be an SSL Certificate that has been signed by a CA that is trusted in your environment. The CA could be an external company such as Verisign, GoDaddy, etc. or it can be an internal CA using a product like Microsoft Certificate Services, or a home grown Certificate Authority using OpenSSL.

To use a CA-signed certificate, you must first generate a Certificate Signing Request (CSR). The CSR generated is sent to the Certificate Authority to be signed. The CA then returns the signed certificate and the CA certificate chain to the user. You then install the signed certificate and CA certificate chain onto the server.

## StoreServ systems and the Service Console

After the Service Processor is initialized, the next task is to add an HPE 3PAR storage system to this Service Console, which attaches the system to the SP. If no systems have been added to the Service Console, guided setup automatically takes you through this task. Adding/Removing a system can also be done through the **Systems** page of the Service Console.

You can add a StoreServ system that has already been initialized or add a new, uninitialized system. After the StoreServ system is initialized, the system automatically connects to the Service Processor so it will appear in the Service Console. All Service Console functionality will be available to the StoreServ.

The `3paradm` is the default super-user ID on the StoreServ system and is used when adding a StoreServ storage system to the Service Console. This super-user ID is associated with the StoreServ system and not SP. You can change the `3paradm` password using the `setpassword` command in the CLI. Changing this password does not impact SP.

If a StoreServ system was removed from the SP configuration and is being readded, use the super user ID and password such as `3paradm` to readd the storage system to the SP.

### More information

- **Adding a system**
- *HPE 3PAR OS Command Line Interface Reference* on [www.hpe.com/info/storage/docs](http://www.hpe.com/info/storage/docs)

## Service Processor connectivity

The Service Console allows you to check connectivity on demand. The Test SP connectivity action runs tests to the Public Network, the 3PAR Secure Service Collector Server, and the 3PAR Secure Service Policy Server.

After a connectivity test has been started, the GUI will show the process as a task in a notifications box. When the notifications box is open, you can click the **Details** link to see the results of the test. You will also be notified when the connectivity test has completed.

The details are shown in Activity view and on the Activity page. The task details will show the results of the test.

## Contacts management

The Service Console has a Contacts page that allows you to manage system support contacts (for Hewlett Packard Enterprise to contact about issues with the system) and local notification contacts (to receive email notifications).

Each attached storage system requires at least one contact to be assigned as a system support contact.

The Contacts page includes a list of all contacts stored on the SP the Service Console is running on. The list of contacts includes the name and the number of systems that contact is assigned to.

Contacts can be either individuals or groups using a single email address. Group contacts can only receive local notifications. They cannot be system support contacts for HPE support.

SC also allows for the creation of local notification rules for suppression and disclosure of specific alerts for contacts:

**Default notifications** – Give the set of notifications currently used by default.

**All notifications** – Selects all notifications available.

**No notifications** – Suppresses all notifications from the system.

**Custom** – Creates a user-defined set of notification rules.

**More information**

**Accessing the Contacts page** on page 25

## Local notifications

Prior to SP 5.0.4.1, in case of loss of connectivity to HPE, the Service Processor (SP) software sent local email notifications to the configured contacts. This occurred in the following scenarios:

- No file is sent (between HPE and the local SP system) for 48 hours.
- The transport agent has not pinged HPE for 48 hours.

When a file is not sent every 4 hrs from the Service Processor, a new FTO (File Transfer Overdue) case gets created in HPE. Previously, you received the notification email after the FTO case was logged.

Additionally, this email notification did not indicate the root cause of the connection failure. Also, no notification was triggered on re-establishing the connection.

With SP 5.0.4.1, the local notifications are enhanced.

Following are the new features of a local notification:

- The default time-interval after which the SP triggers a notification is two hours.
- The SP triggers an alert on the Service Console. It also sends out an email notification when the connection to HPE is lost or restored.
- The time-interval of receiving the notification can be set for any integer value between 2-48 hours.

**NOTE:** The support personnel can configure the time-interval of receiving the notification by following the below procedure:

1. Access `/sp/conf/SP.conf` and modify the value of the integer parameter `CONNECTIVITY_NOTIFICATION_TIMEOUT` within a range of [2-48] based on your requirements.
2. Restart the SSMC service.

- The notification has details about the connectivity issue such as DNS/Proxy server/Collection server issue. The following is a notification sent for connection failure:

Type	Event Code	Description
SPTransport	sp.transport.501	Transport Server Connection Down.

- If there are multiple issues, then there is a single notification indicating the highest prioritized problem.
- Once a lost connection is successfully re-established, a new email notification is sent indicating the successful connection.

Type	Event Code	Description
SPTransport	sp.transport.502	Transport Server Connection Successful

## ILLUSTRATIONS & EXAMPLES

- The following is how the notification alert appears on the Service Console:

The screenshot displays the 3PAR Service Console interface. The top navigation bar includes the 3PAR logo, a search bar, and user icons. The main content area is divided into several sections: Overview, General, Health, Support, and New Alerts. The 'General' section shows details for a Service Processor (SP88712), including its model, date/time, version, IP address, and firewall status. The 'Health' section displays the status of various components like 'Up since', 'Transfer status', 'Last transfer', 'SP storage space', 'Service status', and 'Service status description'. The 'Support' section lists settings for 'Email notification', 'Allow software downloads', 'Send support data to HPE', 'HPE remote support access', and 'RAP Forwarding'. The 'New Alerts' section on the right shows a list of alerts, with the top one being 'Transport Server Connection Down'. A modal window is open over this alert, providing details and a resolution step: 'Check the network configuration of SP and ensure that SP can access the collection server.'

On clicking the **Details** link, you are redirected to the Activities page. You can click the alert on this page to navigate to the details as shown here:

The screenshot shows the 3PAR Service Console interface. At the top, there's a search bar and navigation tabs. The main area displays a table of alerts. The selected alert is 'Transport Server Connection Down' with a severity of 'Major' and a state of 'New'. The alert message reads: 'Transport Server Connection Down: Call home connectivity is down for 2 hours. Could not connect to configured Proxy server.' Below the message, there's a 'Recommended Action' section advising to check network and support configuration. The alert details include System (s529), Type (3PAR SP Transport Notification), and Origin (SSMC). The right sidebar shows 'New Alerts' with a list of recent alerts.

- Following is an example of local email notification received on connection failure:

Notification from SP8954632 (SP ID: SP5ad1c-pnf91-luxr9-ih9x1-00cvh),  
Realtime Alert Process

Notified time: 2018/10/04 21:48:47.900 (-0700 PDT)  
Machine ID: 3PAR SP SP5ad1c-pnf91-luxr9-ih9x1-00cvh

Event type: alert  
Severity: Major  
Event count: 1  
Time: 2018/10/04 21:43:52.166 (-0700 PDT)  
Description: 3PAR SP Transport Notification

-----Event Message-----

SP transport process for system SP5ad1c-pnf91-luxr9-ih9x1-00cvh.  
Transport Server Connection Down: Call home connectivity is down for 2  
hours. Could not connect to configured Proxy server.

-----Corrective Action-----

Check the network and support configuration of SP and ensure that SP can  
access the collection server. If the issues continue to persist, please  
contact HPE support for further assistance.

- Following is an example of local email notification received on re-establishing the connection:

Notification from SP8954632 (SP ID: SP5ad1c-pnf91-luxr9-ih9x1-00cvh), Realtime Alert  
Process

Notified time: 2018/10/04 21:58:51.203 (-0700 PDT)  
Machine ID: 3PAR SP SP5ad1c-pnf91-luxr9-ih9x1-00cvh

Event type: ignore  
Severity: Info  
Event count: 1  
Time: 2018/10/04 21:54:08.944 (-0700 PDT)  
Description: 3PAR SP Transport Notification

-----Event Message-----

SP transport process for system SP5ad1c-pnf91-luxr9-ih9x1-00cvh.

Transport Server Connection Successful: Call home connectivity is restored.

-----Corrective Action-----  
No action required.

## HPE 3PAR SP update concepts

An **Update** link appears in the General section on the Service Processor screen when an update is available for the Service Processor:

The screenshot shows the HPE 3PAR Service Console interface. The top navigation bar includes the '3PAR Service Console' logo, a search bar, and user icons. The main content area is titled 'Service Processor' and has a tabbed interface with 'Overview' selected. An 'Actions' button is in the top right. The 'General' section is expanded, displaying various system details. A red box highlights the 'Recommended patches' field, which shows '5.0.5.0-...' and an 'Update' link. Other fields include 'Name', 'Model', 'SP date/time', 'Version', 'Current', 'Recommended versions', 'IP address', 'SP ID', and 'Firewall'. The 'Health' section shows 'Up since', 'Transfer status', 'Last transfer', 'SP storage space', 'Service status', and 'Service status description'. The 'Storage Systems' section shows a table with columns for 'Connection Status', 'Name', 'Model', and 'Serial Number'. The 'Support' section shows various settings like 'Scrub private information', 'Email notification', 'Allow software downloads', 'Send support data to HPE', 'HPE remote support access', 'Receive update recommendation', and 'RAP Forwarding'.

General		Health	
Name	sp1213685	Up since	23 Jan, 2019 5:30:46 AM IST
Model	VMware Virtual Platform	Transfer status	● Normal
SP date/time	28 Jan, 2019 9:15:33 AM IST	Last transfer	<u>28 Jan, 2019 9:01:23 AM IST</u>
Version		SP storage space	● Normal
Current	5.0.5.0-...	Service status	● Normal
Recommended patches	5.0.5.90-2... <a href="#">Update</a>	Service status description	Service normal (running)
Recommended versions	5.0.80.0-2... <a href="#">Update</a>		
IP address	...		
SP ID	SPa20no-d1ib3-kl2kn-iwe0j-bufv5		
Firewall	Enabled - Permissive mode enabled <a href="#">View firewall rules</a>		

Storage Systems				Support	
Connection Status	Name	Model	Serial Number	Scrub private information	Disabled
●	<a href="#">SP_152</a>	HPE_3PAR 8400	...	Email notification	Enabled
				Allow software downloads	Enabled
				Send support data to HPE	Enabled
				HPE remote support access	Enabled
				Receive update recommendation	Enabled
				RAP Forwarding	Disabled

When you click on the **Update** link, it takes you to the **Install Service Processor Update** page which lists the available updates along with the update-specific release notes:





Install Service Processor Update?

Update Package

Current Service Processor version

5.0.5.0-


Available Updates

Update	Priority	Synopsis	Install Time	State	
5.0.5.0-	Recommended	HPE 3PAR Service Processor build SP-5.0.5.0-	—	Ready	
5.0.80.0-	Recommended	This package contains an update to the HPE 3PAR Service Processor.	<10 Minutes	Downloadable	

Load Package

Install

Cancel

You can click on  (release notes icon) to read the release notes of each update before installing it. See the *HPE 3PAR OS and Service Processor Software Update Guide* for detailed information on staging and installing the updates.

## HPE 3PAR OS update concepts

A notification appears on the Systems screen when an update is available for the HPE 3PAR OS. Notification includes the severity of the updates and a link to update-specific-release-notes.

Also, an **Update** link appears in the General section:



**1 OS Summary**

**2 Update Overview**

**3 Available Updates**

**4 Load Package**

**5 Update History**

**6 Install**

**7 x**

**8 x**

**9 x**

**10 Yellow bar**

1	<b>OS Summary</b>	Current OS version and summary of applicable updates with 'severity'.
2	<b>Update Overview</b>	Ongoing or last update status
3	<b>Available Updates</b>	All applicable updates to this array with details.
4	<b>Load Package</b>	Download the updates from HPE HQ to array or upload a new package.
5	<b>Update History</b>	History of updates.
6	<b>Revert</b>	Revert the version if needed.
7	<b>Install</b>	Install the updates.
8	<b>x</b>	Remove package on the array.
9		Launches update specific release notes.
10	<b>Yellow bar</b>	Updates availability alerts with severity.

For information on how to stage, install and revert the updates including patch and major updates, see the *HPE 3PAR OS and Service Processor Software Update Guide*.

# HPE InfoSight and 3PAR

Through 3PAR integration with HPE InfoSight, SP provides the following features:

- HPE InfoSight Cross Stack Analytics—collect performance and configuration data from vCenter servers which have 3PAR volumes exported to them. The 3PAR Service Processor aggregates the data and relays it back to HPE InfoSight.
- HPE InfoSight VM Monitoring and Analytics for 3PAR—correlate virtual performance characteristics, neighboring VMs, and underlying storage in a single view. Provide metrics such as top VMs by latency and IOPs. Identify hotspots and contentious VMs.

## Array hardware overview

Technical Support and Partners logging in to the Service Console will need to view and service the array hardware for the storage systems serviced by the Service Processor. For this purpose, the Service Console makes available many of the storage systems pages that are also available in the HPE 3PAR StoreServ Management Console (SSMC) including:

- Systems
- Controller Nodes
- Ports
- Drive Enclosures
- Physical Drives

# Service Console guidelines

These topics explain parameters and specifications necessary for completing Service Console tasks.

## Online help: basic search

In the online help window, clicking **Search** opens the search panel. You can enter search terms and click **List Topics**, or you can click an item in the autocomplete list to display the search results. Clicking a search result displays the help topic.

The basic word search finds topics that contain all the words that you enter in the search box. For example, entering “dogs chase cats” finds topics that contain the words **dogs** and **chase** and **cats**.

To search for a phrase, you must enclose the phrase in quotes. For example, entering “dogs chase cats” finds topics that contain the exact phrase **dogs chase cats**.

Search results are listed in the results in rank order, from highest to lowest. Ranking indicates the relative number of occurrences of the search word or phrase in the topics. When a topic is displayed, the search word or phrase is highlighted in yellow.

### TIPS:

- Searches are case insensitive by default. You can also choose case-sensitive searches.
- You can include special characters in phrase searches. If you include special characters in basic word searches, the special characters are treated as spaces.

## Online help: advanced search

**Tip:** Wildcard and Boolean searches cannot be used in phrase searches.

### Wildcard searches

You can use the following wildcard characters individually or in combinations.

**Question mark (?)** – You can use a question mark to represent a single character. For example, entering **c?t** would find topics that contain words such as **cat** and **cot**. Entering **cat???** would find topics that contain words such as **cattle**.

**Asterisk (\*)** – You can use an asterisk to represent multiple characters. For example, entering **d\*g** would find topics containing words that start with **d** and end with **g**, such as **donating**.

### Boolean searches

**And** – In a word search, a space between search words is treated as a Boolean **and** operator. For example, entering **dogs cats** would find topics that contain the words **dogs** and **cats**.

**Or** – You can also use the word **or** between words. For example, entering **dogs or cats** would find topics that contain the word **dogs** or **cats**.

**Not (-)** – To search for topics that do not include a specific word, you can enter a minus sign in front of the word. For example, entering **dogs -cats** would find topics that contain the word **dogs** but do not contain the word **cats**. You must enter a space before the minus sign; otherwise, the search treats the words as hyphenated.

### Proximity searches

Proximity searches apply to English strings in an English environment only.

**Near** – You can use the word **near** to search for words that are within 10 words of each other, in any order. For example, entering **dogs near cats** would find topics in which the words **dogs** and **cats** are within 10 words of each other.

**Fby** – You can use the letters **fby** (followed by) to search for words that are within 10 words of each other, in a specific order. For example, entering **dogs fby cats** would find topics in which the words **dogs** and **cats** are within 10 words of each other, in the order of **dogs** then **cats**.

## Service Console and SSMC

For SP 5.0, SSMC must be installed separately on your local system, and only one stand-alone 3PAR StoreServ Storage system can be added to a single SP or Service Console.

## Supported platforms and browsers

### Physical SPs

- HPE ProLiant DL360 Gen10
- HPE ProLiant DL120 Gen9
- HPE ProLiant DL360e Gen8
- HPE ProLiant DL320e Gen8

### Virtual SPs

- VMware ESXi 5.5/6.0/6.5/6.7
- Microsoft Hyper-V 2012/2012 R2/2016

### Browsers

- Microsoft Internet Explorer
- Microsoft Windows Edge
- Mozilla Firefox
- Google Chrome

To access the most current browser version information, go to the Single Point of Connectivity Knowledge for Hewlett Packard Enterprise Storage Products at <https://h20272.www2.hpe.com/SPOCK/>.

## Firewall and proxy server configuration

Firewall and proxy server configuration must be updated on the customer network to allow outbound connections from the Service Processor to the existing HP servers and new HPE servers.

HP and HPE server host names and IP addresses:

- HPE Remote Support Connectivity Collector Servers:
  - <https://storage-support.glb.itcs.hpe.com> (16.248.72.63)
  - <https://storage-support2.itcs.hpe.com> (16.250.72.82)
- HPE Remote Support Connectivity Global Access Servers:
  - <https://c4t18808.itcs.hpe.com> (16.249.3.18)
  - <https://c4t18809.itcs.hpe.com> (16.249.3.14)

- <https://c9t18806.itcs.hpe.com> (16.251.3.82)
- <https://c9t18807.itcs.hpe.com> (16.251.4.224)
- HP Remote Support Connectivity Global Access Servers:
  - <https://g4t2481g.houston.hp.com> (15.201.200.205)
  - <https://g4t2482g.houston.hp.com> (15.201.200.206)
  - <https://g9t1615g.houston.hp.com> (15.240.0.73)
  - <https://g9t1616g.houston.hp.com> (15.240.0.74)
- HPE RDA Midway Servers:
  - <https://midway5v6.houston.hpe.com> (2620:0:a13:100::105)
  - <https://midway6v6.houston.hpe.com> (2620:0:a12:100::106)
  - <https://midway7v6.houston.hpe.com> (2620:0:a13:100::108)
  - <https://midway9v6.houston.hpe.com> (2620:0:a13:100::109)
  - <https://midway8v6.houston.hpe.com> (2620:0:a12:100::109)
  - <https://g4t8660g.houston.hpe.com> (15.241.136.80)
  - <https://s79t0166g.sgp.ext.hpe.com> (15.211.158.65)
  - <https://s79t0165g.sgp.ext.hpe.com> (15.211.158.66)
  - <https://g9t6659g.houston.hpe.com> (15.241.48.100)
  - <https://g9t7157g.houston.hpe.com> (15.241.48.251)
  - <https://g9t7158g.houston.hpe.com> (15.241.48.252)
  - <https://g4t9581g.houston.hpe.com> (15.241.136.208)
  - <https://s54t0109g.sdc.ext.hpe.com> (15.203.174.94)
  - <https://s54t0108g.sdc.ext.hpe.com> (15.203.174.95)
  - <https://s54t0107g.sdc.ext.hpe.com> (15.203.174.96)
- HPE InfoSight Servers:
  - <https://sfrm-production-llb-austin1.itcs.hpe.com> (16.252.64.51)
  - <https://sfrm-production-llb-houston9.itcs.hpe.com> (16.250.64.99)
  - <https://infosight1.itcs.hpe.com> (16.248.65.16)
- For communication between the Service Processor and the HPE 3PAR StoreServ Storage system, the customer network must allow access to the following ports on the storage system.
  - Port 22 (SSH)
  - Port 5781 (Event Monitor)
  - Port 5783 (CLI)

- For communication between the browser and the Service Processor, the customer network must allow access to port 8443 on the SP.
- For communication between the vCenter instance and the Service Processor, the customer network must allow access to port 443 (default port) on the SP and vCenter server.

## FAQ

- **What is the relationship between HPE 3PAR Service Console and HPE 3PAR StoreServ Management console?**

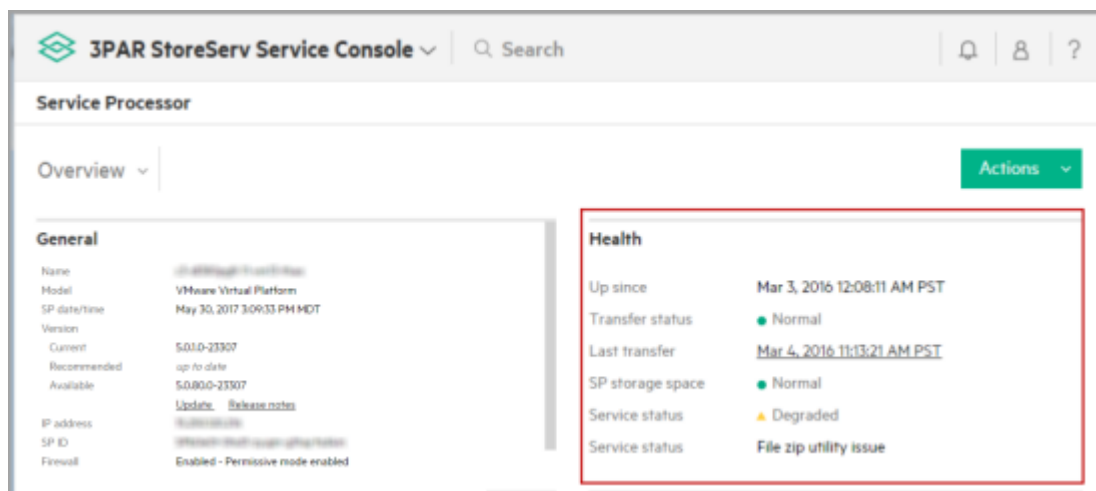
The Service Console has the same look and feel as the HPE 3PAR StoreServ Management Console. Some of the same pages are available in both with certain noted differences.

SSMC will not be running on the Service Processor, but you must install it on one of your systems in a “stand-alone SSMC” configuration. There are two consoles in the stand-alone SSMC configuration: StoreServ Management Console (SSMC or Management Console) and StoreServ Administrator Console (SSAC or Admin Console). You can switch the consoles back and forth by clicking the Administrator console check box below the login button. Users log in to StoreServ Management Console using array credentials and can then use SSMC to manage StoreServs that are added to the SSMC configuration that their credentials allow them to see. A local admin can log in to the StoreServ Admin console, which is used to set up SSMC on your system and add/remove StoreServs to/from the SSMC configuration.

For SP 5.0, the Systems page of the Service Console includes a Service Processor box showing the name of the Service Processor managing the 3PAR StoreServ Storage system. The value of this field displays the SP ID of the Service Processor and will be a hyperlink to the Service Processor page.

- **Where can I see health details?**

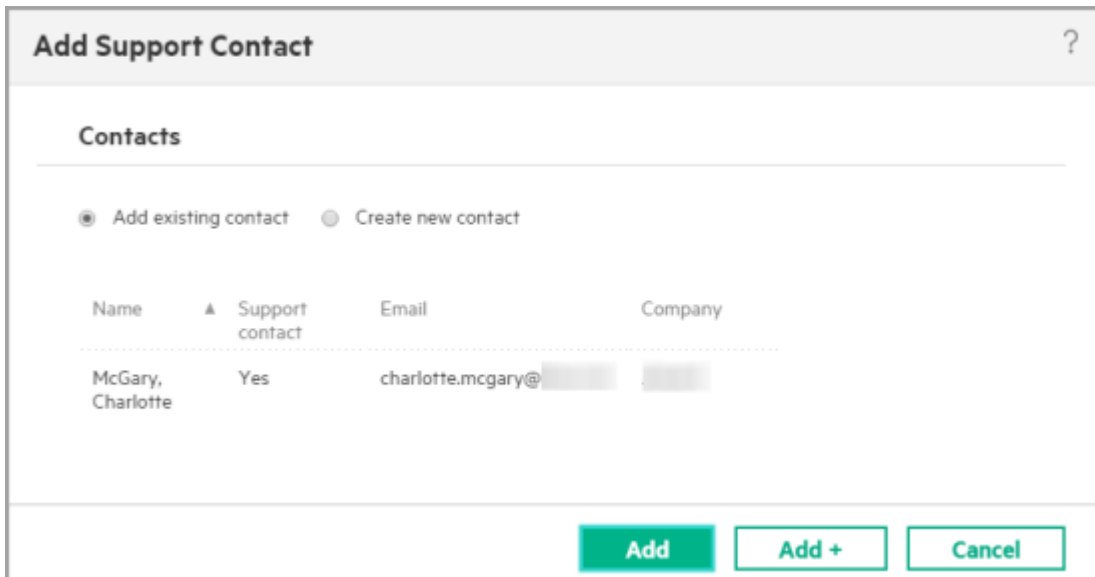
Health panels are included in the Overview view of most detail panes.



- **Why is there an action button and an action + button on some dialogs?**

Clicking an action button performs the action and closes the dialog. Clicking an **action +** button performs the action but the dialog remains open and the entries are cleared. This is helpful when you perform the same action repeatedly, such as adding contacts.





**Add Support Contact** ?

**Contacts**

☒ Add existing contact
 ☐ Create new contact

Name	Support contact	Email	Company
McGary, Charlotte	Yes	charlotte.mcgary@	

## General screens, views, and actions summary

### Activity screen

Views:

List pane: Default View

Actions:

- Mark as New
- Mark as Fixed
- Acknowledge
- Delete
- Stop/Resume Advanced OS Update

### Settings screen

Views: Not applicable

Actions:

- Edit Formats
- Edit Preferences
- Edit Application

### Contacts screen

Views:

- List pane: Default View
- Detail pane:

- Overview
- Systems

Actions:

- Create
- Edit
- Delete

### **Files screen**

Views: Not Applicable

Actions:

- Transfer to HPE support
- Download

## **Service screens, views, and actions summary**

This topic summarizes the Views and Action menus that you can use to perform tasks from the Service screens.

### **Service Processor screen**

Views:

- Detail pane:
  - Overview
  - Transfer
  - Setup
  - Activity
  - Settings

Actions:

- Edit SP configuration
- Collect support data
- Test SP connectivity
- Cleanup SP files
- Update
- Unmount SP DVD drive
- HPE Support password
- Backup SP recovery Data

- Shutdown
- Reboot

## Storage Systems screens, views, and actions summary

This topic summarizes the Views and Action menus that you can use to perform tasks from the Storage Systems screens.

### Systems screen

Views:

- List pane: default view
- Detail pane:
  - Overview
  - Configuration
  - Capacity
  - Capacity Savings
  - Capacity Forecasting
  - Compaction
  - Encryption
  - System Reporter
  - Settings
  - Services
  - Software
  - Licenses
  - Layout
  - Performance
  - Update
  - Activity
  - Map

Actions:

- Edit
- Locate / Stop locate
- Edit System
- Add system
- Collect support data
- Start CLI session

- Check health
- Update HPE 3PAR OS
- Update Firmware
- Post update checks
- Set maintenance mode
- Remove System
- Reboot
- Shutdown
- Add license

### **Controller Nodes screen**

Views:

- List pane: default view
- Detail pane:
  - Overview
  - Schematic (HPE 3PAR StoreServ 7000 and 8000 series only)
  - Adapter Cards
  - Power Supplies
  - Microcontroller
  - System Fans
  - Internal Drive
  - Batteries
  - Activity
  - Performance
  - Map

Actions:

- Locate / Stop locate
- Show battery test log (HPE 3PAR StoreServ 10000 and 20000 series only)
- Reset battery test log (HPE 3PAR StoreServ 10000 and 20000 series only)
- Reboot
- Shutdown

### **Ports screen**

Views:

- List pane: default view
- Detail pane:
  - Overview
  - Schematic (HPE 3PAR StoreServ 7000 and 8000 series only)
  - Settings
  - Hosts
  - Sessions
  - Performance
  - Activity
  - Map

Actions:

- Edit
- Edit label
- Disable
- Enable
- Initialize
- Clear
- Reload Firmware
- Sync to name server
- Ping

**Drive Enclosures screen**

Views:

- List pane: default view
- Detail pane:
  - Overview
  - Schematic (HPE 3PAR StoreServ 7000 and 8000 series only)
  - Magazines
  - Interface Cards
  - Power Supplies
  - Cooling Fans
  - Physical Drives
  - SFPs

- Activity
- Map

Actions:

- Edit
- Locate / Stop locate

### Physical Drives screen

Views:

- List pane: default view
- Detail pane:
  - Overview
  - Schematic (HPE 3PAR StoreServ 7000 and 8000 series only)
  - Performance
  - Activity
  - Map

Actions:

Locate / Stop locate

## Service Processor health

The health and status of the SP and associated services can be viewed in the Health section of the Overview of the Service Processor page. The overall status of the SP service is indicated with one of the following:

- **Normal** – Service is up and running normally.
- **Warning** – Service is up and running but has an issue.
- **Failure** – Service is down.

## Service Processor configuration settings

The following SP settings can be modified through the **Edit SP configuration** action from the Service Processor page.

## Network settings

**Network Settings**

SP ID

Name

IPv4 address

IPv4 subnet mask

IPv4 gateway  ☐ Skip gateway validation check

☐ IPv6

Network speed

DNS

Domain

DNS server 1

DNS server 2  Optional

Changing the SP IP address may cause you to lose your current connection. After the SP has been successfully reconfigured with the new IP address, reconnect to the SP using the new address.

☒ I have read and understood all the implications of changing the SP IP address.

Checked: I have read and understood all the implications of changing the SP IP address

**Name** – Host name of Service Processor.

**IP address/IPv6 address** – Service Processor IP address. Changing the SP IP address may cause you to lose your current connection and requires confirmation to proceed.

**Subnet mask/Subnet prefix length** – Subnet mask associated with the SP IPv4 address/number of bits used to identify network (IPv6).

**Gateway** – Default gateway IP address. You can also choose to skip the gateway validation check.

**NOTE:** The Service Processor considers the value of **Skip gateway validation check** setting only if the network configuration settings such as Name, IP address or Subnet mask have been modified.


**Network speed** – Automatic, 1000 Mb/s, or 100 Mb/s.

**Duplex** – Half/Full. (Available only when network speed is not set to Automatic.)

**DNS** – Enable/Disable. If enabled, DNS domain name and server information are configurable.


**NOTE:** When you have 2 network adapters in a Virtual Service processor, a secondary network configuration is available. After configuring the secondary network, the Service processor starts communicating with HPE Remote Support through the secondary network while all other communication like connection to 3PAR systems continues to use the primary network.

The network information is displayed in the Service Processor overview page. The second IP address is displayed only if a secondary network is configured.

 **3PAR Service Console** ▼ 🔍 Search

**Service Processor**

Overview ▼

**General**  [Edit](#)

Name	SP23427486
Model	Virtual Machine
SP date/time	Feb 2, 2019 3:33:26 PM IST
Version	
Current	5.0.5.0-26250
IP address	<div><div></div><div>(eth0)</div></div> <div><div></div><div>(eth1)</div></div>
SP ID	SP60r4c-tmnse-cux17-54a09-4id3z
Firewall	Enabled - Permissive mode enabled <a href="#">View firewall rules</a>

The secondary network settings are shown in the below figure:



Service Processor Settings
Network Settings
?

### Network Settings

SP ID: SP60r4c-fmnse-cux17-54a09-4id3z

Name: 

Enter a host name for the Service Processor. It can contain 32 characters including numbers, letters, and hyphens(-). Note that name should neither start with nor end with a hyphen(-).

IPv4 address:

IPv4 subnet mask:

IPv4 gateway: 
☐ Skip gateway validation check

☒ IPv6

Network speed:

DNS: ☒ Enabled

Domain:

DNS server 1:

DNS server 2:  Optional

Secondary Network: ☒ Enabled

The secondary network will only be used as the communication network to HPE support. Internal connections to the system will use the primary network configured above.

IPv4 Address:

IPv4 subnet mask:

Gateway: 
☐ Skip gateway validation check

Network speed:

OK Cancel

- Secondary network-** Enabling secondary network allows you to configure the secondary network, while disabling brings down the secondary network and the SP falls back to the primary network for remote HPE support. To configure the secondary network, provide the below attributes:
  - IP address-** Service Processor Secondary network IPV4 address
  - Subnet mask/Subnet prefix length-** Subnet mask associated with the secondary network IPV4.
  - Gateway-** Secondary Network gateway IP address. (You can also choose to skip the gateway validation check.)
  - Network Speed-** Automatic, 1000 Mb/s, or 100 Mb/s.
  - Duplex-** Half/Full (Available only when Network Speed is not set to Automatic.)

## Secondary network

Service Processor 5.0.5 onward, there is support for an additional network (referred to as secondary network) whose primary objective is to provide a separate network for HPE remote support communication. Secondary network can be configured only from the **Edit SP configuration** action from the UI after SP has been initialized. You need to include additional adapter in VSP to use this secondary network.

While using SP with two networks, note the following:

- 3PAR systems and Vcenter must be reachable from the primary network whether secondary network is enabled or disabled.
- If secondary network is configured, then proxy server or internet must be reachable from the secondary network.
- DNS and NTP servers must be accessible from either the primary or secondary network.
- SMTP server must be in the primary network and must have access to the internet if events/alerts need to be emailed to HPE headquarters (RAP forwarding feature).

---

**NOTE:** In the context of network settings, the network which has access to HPE 3PAR storage system is referred to as primary network and the network which has access to HPE through internet is referred as secondary network.

---

## Configuring dual network on a fresh SP

### Prerequisites

Two networks are available on ESX or Hyper-V.

### Procedure

1. Deploy the VSP over ESX or Hyper-V.
  - If you're deploying on Hyper-V, choose the virtual switch for the primary network.
  - If you're deploying on ESX, the default network is chosen.
2. After deploying, shutdown the VSP (if running).
3. In the VM setting for the VSP, map the first NIC to primary network. Add the second NIC and map it to the secondary network.
4. Start the VSP.
5. Connect to the SP console. From TUI, configure the primary IP for SP.
6. Browse the SP GUI using the primary IP and initialize the SP with one network (primary).
  - If proxy is configured, then the SP initialization completes with warning. Ignore the warning.
  - At this stage only primary network NTP, SMTP, DNS can be configured. If NTP and, DNS are in secondary network, then configure the same after configuring the secondary IP.
7. After the SP is initialized and rebooted, configure the secondary network from **Edit SP configuration** dialog in the Service Console UI.
  - Provide the IP address, subnet mask and gateway information for the secondary network.
  - DNS and proxy information that was set during initialization will apply to the secondary network as well.

8. Configure 3PAR storage system in SP.
9. Verify SP Test Connectivity to ensure that all configurations are working fine.

## Configuring dual network on an existing SP with one network

### Prerequisites

SP is configured with one network. On ESX or Hyper-V, both primary and secondary networks are configured.

### Procedure

1. Browse the SP GUI using the primary network IP address.  
If you want to stay on the same main primary network then go to step 6. If you want to go to an isolated network which does not have access to the internet or proxy server, proceed with step 2.
2. Before changing the SP network, check if the new SP primary network can reach the configured DNS Server. If new network cannot reach the configured DNS Server then disable DNS from **Edit SP configuration** dialogue, otherwise SP GUI may become inaccessible.
3. Turn off VM and edit the existing adapter from HyperV/ESXI settings and map to a new network. At the same time, add a new network adapter and map to a second network. Then start the VM.
4. Configure the SP network using TUI Console.
5. Make sure SP can reach the 3PAR system from the new primary network.
6. Browse the SP using the primary network IP and configure the secondary network:
  - Configure the secondary IP.
  - Ensure proxy is accessible on the secondary network.
7. Verify SP Test Connectivity to ensure all configuration are working fine.

## Disabling secondary network when two networks are configured

### Prerequisites

SP is configured with dual network.

### Procedure

1. Browse SP GUI from primary IP.
2. Ensure that the configured DNS is accessible from the primary network.
3. Reconfigure the SP network:
  - Ensure that if DNS is reachable from the secondary network, it is removed prior to disabling the secondary network.
  - Disable the secondary network in **Edit SP configuration** dialog.
  - Ensure that NTP is reachable from the primary network.
  - Ensure that the configured proxy is reachable from the primary network.
4. Verify SP Test Connectivity to ensure all configurations are working fine.

## Time and date settings

**Date and Time**

Time and date

☒ Set using NTP server ☐ Set manually

Network time server

Network time server2

Optional

Network time server3

Optional

Country

United States

✕ 🔍

Timezone

(UTC-08:00) Pacific

▼

**Time and date** – NTP server (recommended) or Manual. If set using NTP server, Network time servers 1, 2, and 3 are configurable.

**NOTE:** HPE discourages Service Processor users to use the global public NTP pool in setting NTP Servers, that is NTP pools from <https://www.pool.ntp.org/en/use.html>. If you have used this kind of public NTP Servers, then Service processor may run out of memory. In that case remove the public NTP server and reboot the SP.

**Country** – Country in which Service Processor is located.

**Timezone** – Time zone in which Service Processor is located. (Only time zones for the selected country will appear.)

## Credentials settings

### Credentials

▼ admin

Current admin password

New admin password

Confirm password

☒ Enable hpepartner user

▼ hpepartner

New hpepartner password

Confirm password

**NOTE:** The Credentials settings will appear only if you are logged in as the admin user account.

**admin** – Credentials for Service Console users managing the system. If editing an existing password, the current password must also be supplied.

**hpepartner** – Credentials used by authorized support users. If editing an existing password, the current password must also be supplied. (Displayed only when **Enable hpepartner user** is selected.)

## Service Processor firewall settings

### Service Processor Firewall

Firewall

Enabled ☒

Permissive mode

Enabled ☒

Rules

IP address ▲

Interface type

.....

There are no firewall rules.

Add

**Firewall** – Enable/Disabled.

**Permissive mode** – Enable/Disabled. Enabling permissive mode allows any system to connect to the SP using HTTPS or SSH protocols (recommended). Disabling permissive mode allows only systems with specific IP addresses to connect to the SP.

**Rules** – Enable/Disabled. Add/remove firewall rules for specific IP addresses.

Support settings

Service Processor Settings		Support ▾
----------------------------	--	-----------

**Support**

Remote support proxy

Enabled

Protocol

HTTP ▾

Proxy name/IP

Proxy Port

Proxy authentication

Disabled

Send email notifications of system alerts

Enabled

Mail host name/IP

Mail host domain

From Email

Service Processor Settings
Support
?

Support
Proxy authentication
Disabled

Send email notifications of system alerts
Enabled

Mail host name/IP

Mail host domain

From Email

Send test email
Enabled

Email address

Transport agent
SSA
RDA

Communicate with HPE using the host name
Disabled

Collection server
Internal HPE 3PAR QA

Changed: Send email notifications of system alerts to "Enabled"
OK
Cancel

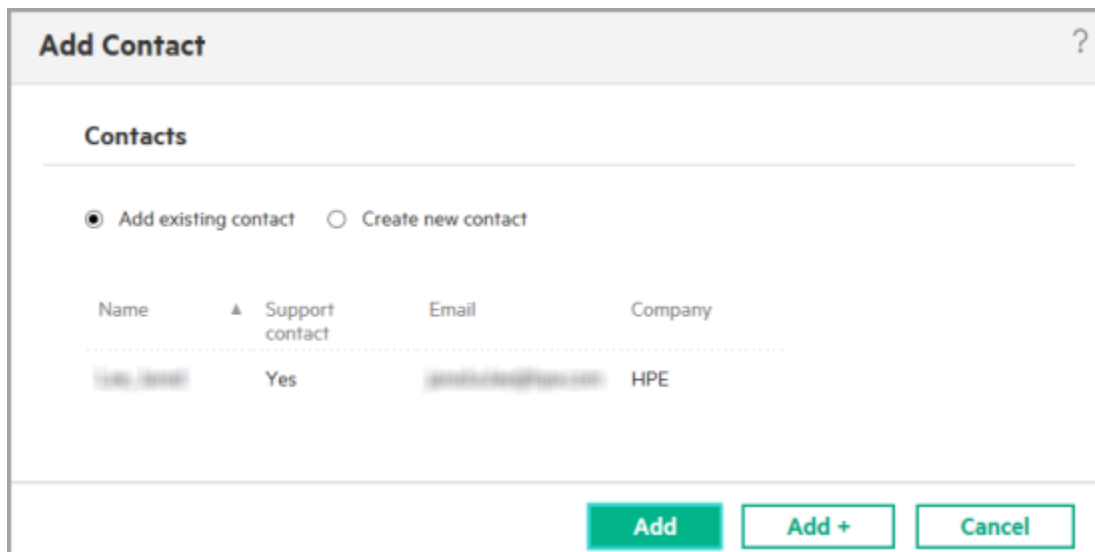
Support Setting	Description	Meant for
<b>Send support data to HPE</b>	<p>Enabled/Disabled. If enabled (recommended), the SP sends collected support data to Hewlett Packard Enterprise. Disabling this feature will prevent HPE Support from receiving any data from your system and disable HPE remote support access and software downloads to your system. No alert notifications will be sent from HPE when this feature is disabled.</p> <p><b>NOTE:</b> This setting must be enabled if you are using HPE InfoSight.</p>	Only administrators.
<b>Scrub private information from support data</b>	<p>Enabled/Disabled. If enabled, customer-sensitive data is scrubbed from telemetry uploaded to HPE Support from the SP. If disabled, data is not scrubbed.</p> <p><b>NOTE:</b> This option appears only if <b>Add data scrubbing feature to Service Console</b> was selected in the TUI.</p>	Only administrators.
<b>HPE remote support access</b>	<p>Enable/Disabled. If enabled (recommended), authorized Hewlett Packard Enterprise support personnel are allowed to access the SP. If disabled, Hewlett Packard Enterprise support personnel cannot access the SP. This option is available only when <b>Send support data to HPE</b> is enabled.</p>	Only administrators.

Table Continued



Support Setting	Description	Meant for
<b>Allow software downloads</b>	Enabled/Disabled. If enabled (recommended), software updates from HPE can be automatically downloaded and staged on the SP and the array so that updates are ready to be installed at a later time. Updates are not automatically installed. If disabled, automatic software downloads from HPE are prohibited. This option is available only when <b>Send support data to HPE</b> and <b>HPE remote support access</b> are enabled. This parameter is a part of <b>Advanced Settings</b> .	Only administrators.
<b>Receive update recommendation</b>	Enabled/Disabled. If enabled (recommended), system specific update recommendations are received.	Only administrators.
<b>RAP forwarding</b>	– Enabled/Disabled. If enabled, it allows the system to email HPE Support copies of notification messages sent to subscribers as specified under RAP rules. This option is available only when <b>Send support data to HPE</b> and <b>HPE remote support access</b> are disabled.	Only administrators
<b>Remote support proxy</b>	<p>Enabled/Disabled. If enabled, the protocol, proxy name/IP, proxy port, and proxy authentication are configurable.</p> <hr/> <p><b>NOTE:</b> Using a SOCKS4 proxy with user authentication is not supported with an RDA transport agent.</p>	Both HPE partners and administrators.
<b>Send email notification of system alerts</b>	Enabled/Disabled. If enabled, the SP can send email notifications of alerts from systems to contacts. The mail host name or IP address must be provided along with the mail host domain. You are also provided with the option to send a test email when the configuration is applied to the SP.	Both HPE partners and administrators.
<b>From Email</b>	Specify the email address from which you want to send the local email notifications.	Both HPE partners and administrators.
<b>Send test email</b>	Enabled/Disabled. If enabled, you are provided with the option to send a test email to the specified email address when the configuration is applied to the SP.	Both HPE partners and administrators.
<b>Transport agent</b>	SSA or RDA. This option is available only when logged in as <code>hpepartner</code> or <code>hpesupport</code> .	Only HPE partners/support.
<b>Communicate with HPE using the host name</b>	<p>Enabled/Disabled. If enabled, the communication of SP with HPE happens using the host name of the proxy server. If disabled, communication with HPE happens using the IP address.</p> <p>This option is available only when logged in as <code>hpepartner</code> or <code>hpesupport</code>.</p>	Only HPE partners/support.
<b>Collection server</b>	Production server. This option is available only when logged in as <code>hpepartner</code> or <code>hpesupport</code> .	Only HPE partners/support.

## Contacts settings



The 'Add Contact' dialog box features a title bar with a question mark icon. Below the title bar, the 'Contacts' section contains two radio buttons: 'Add existing contact' (selected) and 'Create new contact'. A table below these buttons displays contact information with columns for Name, Support contact, Email, and Company. The table contains one row with the values 'John Smith', 'Yes', 'john.smith@hpe.com', and 'HPE'. At the bottom right, there are three buttons: 'Add' (green), 'Add +' (white with green border), and 'Cancel' (white with green border).

Name	Support contact	Email	Company
John Smith	Yes	john.smith@hpe.com	HPE

**Contacts** – Add existing contact / Create new contact.

## File cleanup settings



The 'File Cleanup Settings' dialog box includes a title bar. Below the title bar, there is a label 'Automatically delete non-critical files older than:' followed by a text input field containing '14' and the word 'Days'. Below this, there are two checkboxes, both of which are checked. The first checkbox is labeled 'Delete all SP packages older than the currently installed package when SP storage space is below 7.5 GiB'. The second checkbox is labeled 'Delete all HPE 3PAR OS packages older than the oldest currently installed OS when the SP storage space is below 7.5 GiB'.

**Automatically delete non-critical files** – Deletes noncritical files older than the specified number of days. The number of days must be between 0 and 14. Setting the number of days to 0 will delete files older than 1 hour.

**Delete SP packages** – Deletes all SP packages older than the currently installed package when SP storage space is below the indicated limit.

**Delete 3PAR OS packages** – Deletes all HPE 3PAR OS packages older than the oldest currently installed OS when SP storage space is below the indicated limit.

## Security settings

These settings are only available to the admin user.

## Security

Login banner message

Enabled

Welcome to ABC Company

Limit number of active UI sessions

Enabled

5

sessions

Session timeout

Enabled

90

minutes

Password expiration

Enabled

60

days

Password history

Enabled

5

FIPS mode

Enabled

Remote syslog

Disabled

**Login banner message** — Enabled/Disabled. If enabled, a customized login banner message can be entered which will be displayed on the SC login screen.

**Limit number of active UI sessions** — Enabled/Disabled. If enabled, you can specify the number of allowed sessions between 5 and 100 that can be active simultaneously. This setting is applied to all users. Changing this setting will require Service Processor to be rebooted before it takes effect.

**Session timeout** — Enabled/Disabled. If enabled, you can specify the amount of time between 1 and 720 minutes that a user session can remain idle before the user is automatically logged out. This setting is applied to all users.

**Password expiration** — Enabled/Disabled. If enabled, you can specify the number of days between 1 and 999 after which the password will be expired. This setting is applied to the admin user on GUI. Changing this setting will require Service Processor to be rebooted before it takes effect.

Once a password expires, the user is prompted to change the password at the next login.

**Password history** — Enabled/Disabled. If enabled, you can specify the number of passwords to be retained between 1 and 25. This setting is applied to the admin and hpepartner users. New passwords will not be allowed to match any of the retained passwords.

**FIPS mode** — Enabled/Disabled. If enabled, you can configure FIPS 140-2 mode for the Service Processor cryptographic modules, including remote support transport. Changing this setting will require Service Processor to be rebooted before it takes effect.

**Remote syslog** — Enabled/Disabled. If enabled, you can send Service Processor audit records to a remote syslog server.

- To send the audit records, enter the name or IP address of the remote syslog server.
- To use TLS, enable the toggle and paste the CA certificate used to sign the remote syslog server certificate. Then enter the port number (default port is 6514) to connect to the remote syslog server.
- If TLS is disabled, select the protocol and then enter the port number to connect to the remote syslog server.

## Service Console users and passwords

There are three accounts on the Service Console: admin, hpepartner, and hpesupport. The same user names and passwords can be used to log in to the Service Console and the SP system.

User name	Description
admin	SP administrator. This account is not used by Hewlett Packard Enterprise personnel and can be modified by the user. This account can be used to change admin and hpepartner passwords, and obtain root and hpesupport password keys to send to Hewlett Packard Enterprise technical support.
hpepartner	Hewlett Packard Enterprise support partner. This account is used only by authorized service providers to perform service and diagnostic functions on the system. The hpepartner password is set by you and stored so that it can be shared with onsite Hewlett Packard Enterprise or authorized service personnel during maintenance activities (and changed again afterwards).
hpesupport	Hewlett Packard Enterprise technical support. This account is used only by Hewlett Packard Enterprise support personnel to perform service and diagnostic functions on the system.

Passwords for the admin and hpepartner users must be 8–32 characters in length, and contain at least one uppercase, one lowercase letter, one digit, and one nonalphanumeric character. The admin user can set the hpepartner password to control access to the service console and the SP.

When setting the hpesupport account password for your Service Processor, you must specify the type of password generation used to create the hpesupport password.

Passwords generation can be one of the following types:

**Time-based** – (Default) Password is reset every hour on the hour based on the SP's clock.

**Encryption-based** – Uses encrypted passwords for Hewlett Packard Enterprise support. You generate the encrypted password key either through the **Set HPE Support password** action or through the TUI option "Secure Password Management." You then send the key to the HPE Support person, who uses the key to obtain the HPE Support password.

The password will be changed each time the key is regenerated, and the password derived from the previous key will no longer be valid.

### More information

**Setting the HPE Support password** on page 32

## Support data collection (SP)

Service Console gives you the ability to collect the following support data from the Service Processor through the Service Processor Screen Actions menu:

**SPLOR data** – Collects health data from the Service Processor and sends it to Hewlett Packard Enterprise.

**Weekly data** – Collects weekly files from the Service Processor since the last weekly process was run and stores it on the file system. Users can manually download the data and send it to Hewlett Packard Enterprise.

#### **More information**

**Collecting support data (SP)** on page 31

## **Support data collection (Systems)**

Service Console gives you the ability to collect the following support data from an attached StoreServ:

#### **Generated data**

- **InSplore data**
  - CLI data
  - Node data
  - TOC data
  - File services data
- **File Persona collection**
  - Slim
  - Comprehensive
- **Performance Analysis**
  - Default
  - Comprehensive
  - Custom

#### **Existing files**

- Application Core files
- System crash dumps
- File Persona automatic collection
- File Persona live dump

**InSplore data** – Collects the selected health data from the storage system and sends it to Hewlett Packard Enterprise.

**File Persona collection** – Collects the selected health data from the File Persona product on the storage system and sends it to Hewlett Packard Enterprise.

**Performance Analysis** – Includes multiple options you can select to further define the data collected by the feature. When this option is selected three options for the data to be collected are displayed: **Default**, **Comprehensive**, and **Custom**. Settings for the number of iterations and the duration for each integration of performance analysis collection are also displayed.

If you select the **Details** check box for the Performance Analysis, all the possible statistics that can be collected are displayed. The selected options will depend on the selection of either Default or Comprehensive. If you select or deselect any options from the default or comprehensive selections, the radio button selection will automatically switch to custom. If default or comprehensive is selected again, the statistics selected will change to the corresponding options.

If you select **Custom** for the Performance Analysis, all the possible statistics that can be collected are displayed.

When customizing the settings for the Performance Analysis settings, you are able to select and deselect any of the statistics and options that are not mutually exclusive. Options for each statistic are shown if the statistic is selected and hidden when the statistic is not selected.

When a support data collection is in progress, it starts a task which will be shown at the top of the page.

If you click the details link to any of the collection tasks, you will be taken to the details for the selected data collection task in the Systems Activity view.

For information about the collection tasks and their options, see *HPE 3PAR Command Line Interface Reference*.

**Application Core files** – Collects core files from the storage system and sends them to Hewlett Packard Enterprise.

**System crash dumps** – Collects health data from the storage system and sends it to Hewlett Packard Enterprise.

**File Persona automatic collection** – Collections that contain additional system information, which are triggered automatically and sent to Hewlett Packard Enterprise when the File Persona system detects serious problems or conditions.

**File Persona live dump** – A memory dump of the File Persona system that can be manually triggered by Hewlett Packard Enterprise support when required for system triage.

#### **More information**

**Collecting support data (system)** on page 35

## **vCenter certificate requirements when using FIPS mode**

A CA certificate is required when FIPS mode is enabled to validate the vCenter server certificate.

The TUI is used to add the CA certificates to the SP truststore. The Service Console is used to enable FIPS mode. Refer to the following table to configure your vCenter and enable FIPS mode.

vCenter entries configured?	FIPS enabled?	Action
Yes	No	<ol style="list-style-type: none"> <li>1. From TUI: add CA certificates to the truststore.</li> <li>2. From the Service Console Server Processor page, select <b>Edit SP configuration</b> from the Actions menu. Enable FIPS mode.</li> <li>3. From the Service Console Server Processor page, select <b>Reboot</b>.</li> </ol>
No	Yes	<ol style="list-style-type: none"> <li>1. From TUI: add CA certificates to the truststore.</li> <li>2. From TUI: restart SP Services.</li> <li>3. From the Service Console Systems page, select <b>Edit System</b> from the Actions menu. Add a vCenter in the Cross Stack Analytics section.</li> </ol>
No	No	<ol style="list-style-type: none"> <li>1. From TUI: add CA certificates to the truststore.</li> <li>2. From the Service Console Systems page, select <b>Edit System</b> from the Actions menu. Add a vCenter in the Cross Stack Analytics section.</li> <li>3. From the Service Console Server Processor page, select <b>Edit SP configuration</b> from the Actions menu. Enable FIPS mode.</li> <li>4. From the Service Console Server Processor page, select <b>Reboot</b>.</li> </ol>

### Configuration tips

- If you configure vCenter entries and enable FIPS mode before adding the certificate to the truststore, HPE InfoSight Cross Stack Analytics collections will fail. Using the TUI, add the correct certificate and restart SP Services.
- If FIPS mode is enabled and you attempt to configure a vCenter entry before adding a certificate, the vCenter entry will fail. Using the TUI, add the correct certificate and restart SP Services before adding the vCenter entry.
- If FIPS mode is enabled and a vCenter entry exists, removing the CA certificate for that entry still allows HPE InfoSight Cross Stack Analytics collections until the SP Service is restarted (the certificate is cached in memory). After restart, Cross Stack Analytics collections will fail. Do not remove the CA certificate until you confirm Cross Stack Analytics collections are not needed.

### More information

- [Managing vCenter certificates in the SP truststore](#) on page 89
- [Security settings](#) on page 74

# Browser warning when connecting to the HPE 3PAR Service Processor

## Symptom

When connecting to your HPE 3PAR Service Processor (SP) IP address, you might receive a warning from your browser that there is a problem with the security certificate or that the connection is not private.

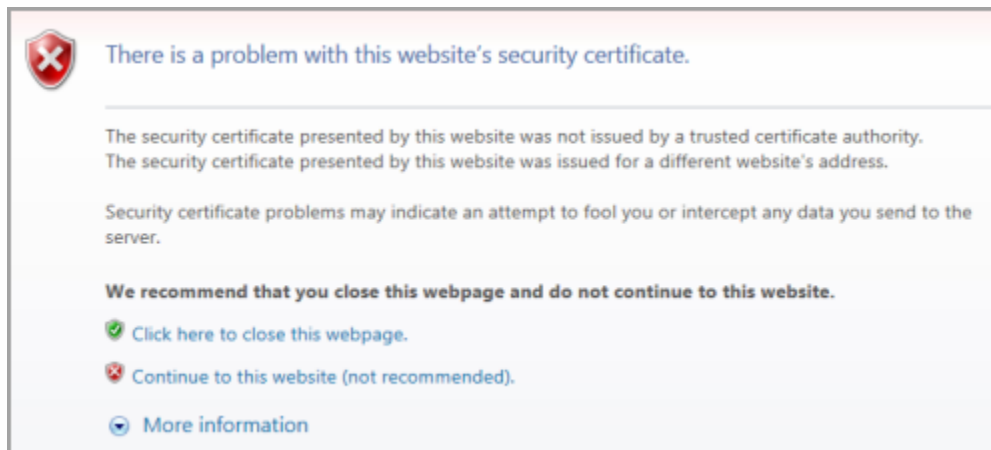
## Solution 1

### Cause

Warning message in Internet Explorer browser.

### Action

Click **Continue to this website (not recommended)**.



## Solution 2

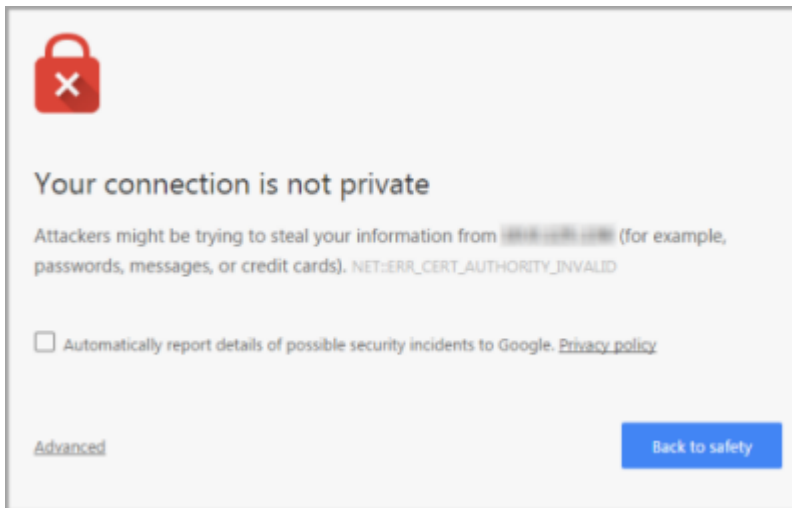
### Cause

Warning message in Google Chrome browser.

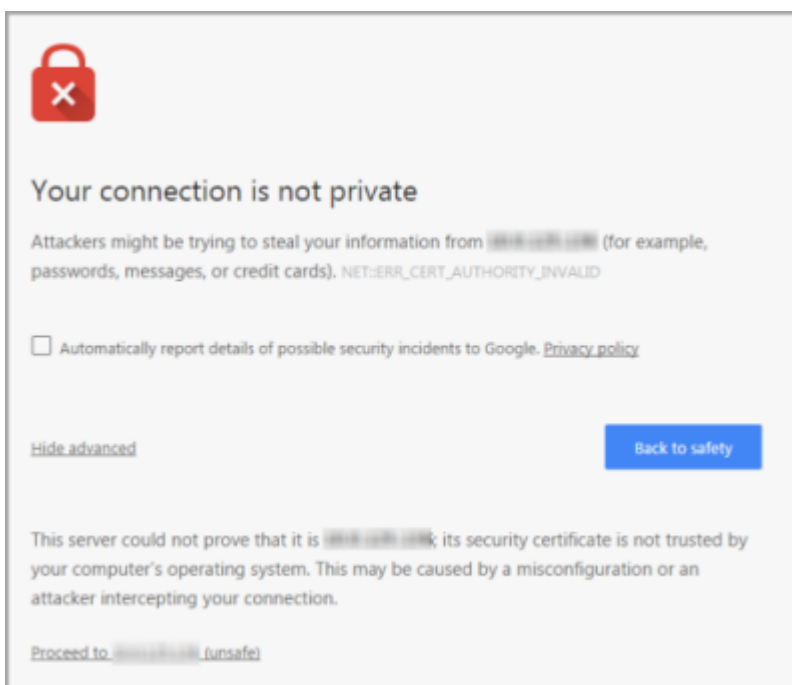
### Action

1. Click the **Advanced** link.





2. Click **Proceed to <sp\_ip\_address> (unsafe)**.



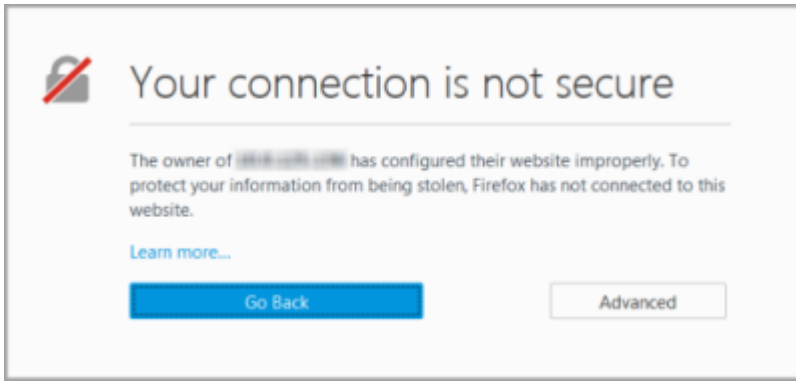
### Solution 3

#### Cause

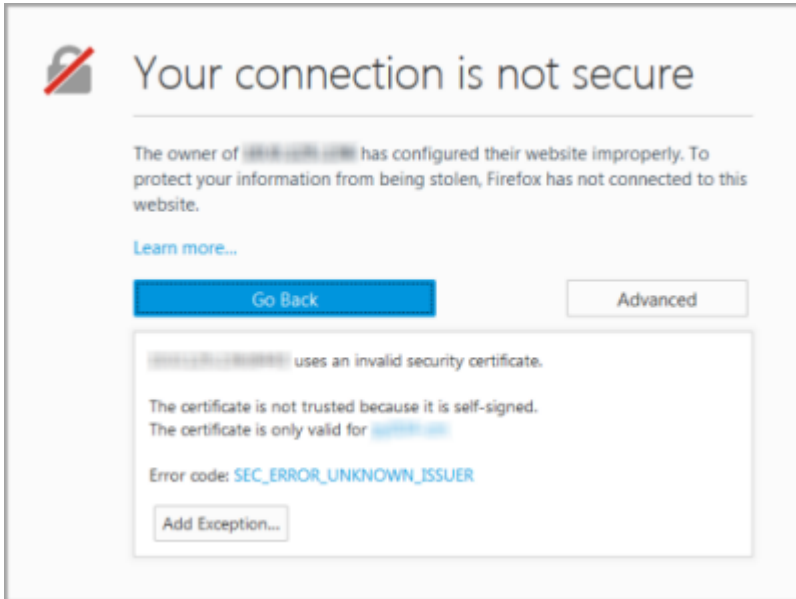
Warning message in Mozilla Firefox browser.

#### Action

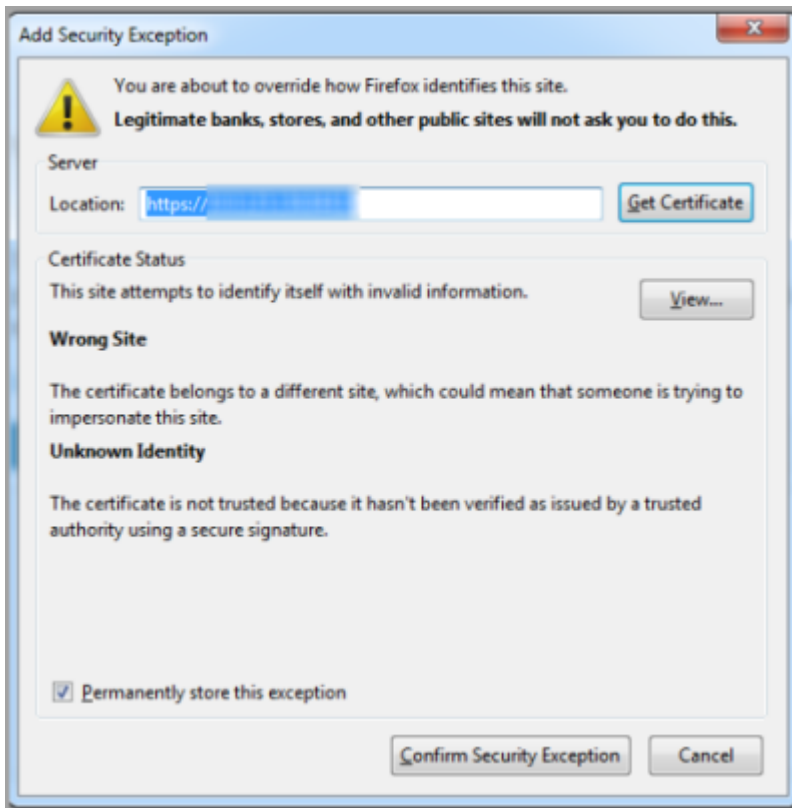
1. Click **Advanced**.



2. Click **Add Exception....**



3. (Optional) To remove the warning for this site in the future, select **Permanently store this exception** in the **Add Security Exception** dialog.



4. In the **Add Security Exception** dialog, click **Confirm Security Exception**.

# The Text-based User Interface

The Text-based User Interface (TUI) is a utility on the Service Processor (SP) that enables limited configuration and management of the SP and access to an attached StoreServ's CLI. The intent of the TUI is not to duplicate the functionality of the SC GUI, but to allow a way to fix problems that may prevent you from using the SC GUI.

The TUI appears the first time you log in to the Linux console opened from the VMware vSphere Client or through a terminal emulator using SSH. Prior to SP initialization, you can log in to the TUI with the user name `admin` and no password. To access the TUI after the SP has been initialized, log in with the `admin` user password you created during the initialization or as the `hpepartner` user. The `admin` and `hpepartner` users will automatically be placed in the TUI when they log in to the Linux console.

The Service Processor ID and model are always displayed in the heading. Before the SP is initialized, the SP ID is displayed as `SP00000`. After initialization, the actual ID assigned to the SP during initialization is displayed.

## TUI navigation

To access the dialog associated with an option, press the number key associated with that option. For example, to select the **Configure Network** option, press the **1** key.

---

**NOTE:** The TUI does not accept numbers entered using the numpad of the keyboard.

---

Use the up and down arrow keys to move from one option to another. The currently selected option will be highlighted. Pressing the **Enter** key will select the currently highlighted option.

To return to the console login screen, press the **X** key on any screen where that option appears.

## Text-based User Interface (TUI) tasks

### Main menu options

Prior to SP initialization, the TUI utility provides the following options:

1. Configure Network
2. Shutdown/Start SP services
3. Reboot SP
4. Shutdown SP
5. Disable Remote Support on initial SP Setup
6. Connect to production servers at initial SP Setup/Connect to internal test servers at initial SP Setup
7. Configure Date and Time
8. Add data scrubbing feature to Service Console

After initialization, the TUI utility provides the following options:

For admin user:

1. Configure Network
2. Shutdown/Start SP services

3. Reboot SP
4. Shutdown SP
5. Secure Password Management
6. Enable/Disable firewall permissive mode
7. Interactive CLI / Maintenance Mode
8. Configure Date and Time
9. (Show next page)
  - a. Add data scrubbing feature to Service Console
  - b. Experimental and Advanced Features
    - I. Manage vCenter certificates in the SP truststore (adv)
    - II. Disable getting past events from StoreServ (adv)
    - III. Disable SRHIREs data collection (adv)

For hpepartner and hpesupport users:

1. Configure Network
2. Shutdown/Start SP services
3. Reboot SP
4. Shutdown SP
5. Secure Password Management
6. Interactive CLI / Maintenance Mode
7. Configure Date and Time
8. Add data scrubbing feature to Service Console
9. Experimental and Advanced Features
  - a. Manage vCenter certificates in the SP truststore (adv)
  - b. Disable getting past events from StoreServ (adv)
  - c. Disable SRHIREs data collection (adv)

## Configuring the network

### Procedure

1. From the main menu, enter the number for **Configure Network**.
2. For a Service Processor whose network settings have not yet been configured, press **Enter** when the **Configure Network** screen appears.

3. If network settings have already been configured, a message will be displayed indicating you can change the settings. (Not recommended unless absolutely necessary.) If you choose to change the settings, press **Enter**. Otherwise, press **X** to return to the main menu.
4. Enter the Service Processor host name, IP address, or press **Escape** to quit and abandon your changes.
5. Enter the subnet mask, or press **Escape** to quit and abandon your changes.
6. Enter the default gateway, or press **Escape** to quit and abandon your changes.
7. Enter **y** to require validation of gateway connection or **n** to not require validation.
8. Enter **y** or **n** to confirm the settings.
9. After the “Network configuration successful” message displays, enter **x** to return to main menu.

## Shutting down/starting SP services

### Procedure

From the TUI main menu, enter the number for either **Shutdown SP services** or **Start SP services**.

Shutting down SP services makes the Service Console GUI no longer accessible through your web browser. Starting SP services enables SP management with the Service Console GUI through your web browser.

---

**NOTE:** While SP services are stopped, certain tasks, such as telemetry data collection, are suspended.

---

## Rebooting the Service Processor

### Procedure

From the TUI main menu, enter the number for **Reboot SP**.

This option will reboot the Service Processor. You must log in to the console as admin again to access the TUI. You can log in as admin without a password until the SP is initialized. After initialization you must log in with the administrator credentials you set during initialization.

## Shutting down the Service Processor

### Procedure

From the TUI main menu, enter the number for **Shutdown SP**.

This option will shut down the Service Processor and exit the console. You must manually restart the SP to access it again.

## Accessing Secure Password Management

This option is only available after SP Setup.

---

**NOTE:** Only the admin user account can view a password blob or change the password policy.

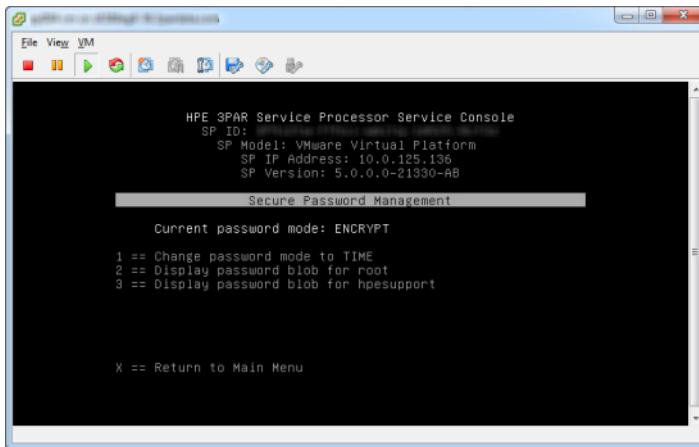
---

### Procedure

1. From the TUI main menu, enter the number for **Secure Password Management**.

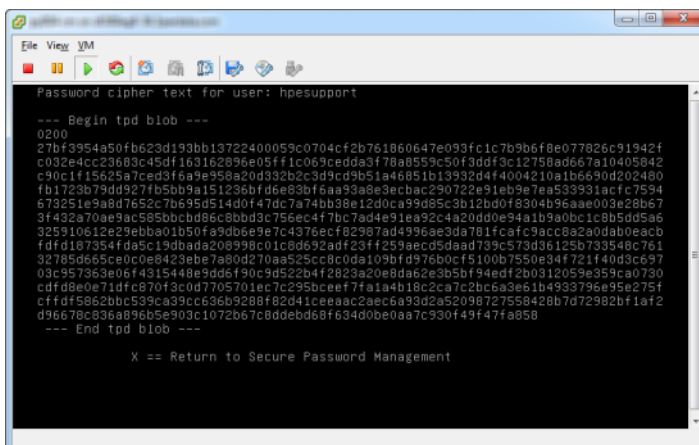
The current password mode (**TIME** or **ENCRYPT**) is displayed, along with the option to change the mode.

For encrypted passwords, you are given additional options to display the root or hpesupport password blobs.



2. When you select an option to display the password blob for the root or hpesupport accounts, the password ciphertext for the specified user is displayed. You can then copy the entire ciphertext blob and send it to Hewlett Packard Enterprise for Hewlett Packard Enterprise Support to obtain the password.

When copying the ciphertext, copy the text starting with the line "- - - Begin tpd blob - - -" and ending with "- - - End tpd blob - - -" including those two lines.



## Disabling Remote Support on initial SP setup

This option is available only prior to SP initialization.

### Procedure

1. From the TUI main menu, enter the number for **Disable Remote Support on initial SP Setup**.

This option will cause the SP to be initialized with Remote Support disabled.

❗ **IMPORTANT:** Disabling Remote Support is not recommended. Disabling this feature will prevent HPE Support from receiving any data from your system. No alert notifications will be sent from HPE.

2. Enter **y**.

## Enabling/Disabling firewall permissive mode

This option is available only to the admin user account.

### Procedure

1. From the TUI main menu, enter the number for either **Enable firewall permissive mode** or **Disable firewall permissive mode**.
2. Enter **y**.

## Starting an interactive CLI session and Maintenance Mode

This option is only available after SP Setup and if there is an HPE 3PAR StoreServ Storage system attached to the SP.

When putting the storage system in maintenance mode or editing the maintenance mode, you must specify the duration in hours and a description of the reason for the maintenance mode.

### Procedure

1. From the TUI main menu, enter the number for **Interactive CLI / Maintenance Mode**.
2. Enter one of the following:

- If not in maintenance mode, enter one of options shown in the following example:

```
Maintenance mode is turned off

1 == Create Maintenance Mode
2 == Open interactive CLI
```

- If in maintenance mode by user, enter one of options shown in the following example:

```
Maintenance mode on by admin until
July 24, 2017 6:48:19 PM PDT

1 == Modify Maintenance Mode for admin
2 == Delete Maintenance Mode for admin
3 == Open interactive CLI
```

- If in maintenance mode by system (for OS update), enter one of options shown in the following example:

```
Maintenance Mode on by System until
July 25, 2017 7:37:16 PM PDT

1 == Delete Maintenance Mode for System
2 == Create Maintenance Mode
3 == Open interactive CLI
```

- If in maintenance mode by both user and system, enter one of options shown in the following example:

```
Maintenance Mode on by System until
July 25, 2017 7:37:16 PM PDT
```



```
1 == Modify Maintenance Mode for admin
2 == Delete Maintenance Mode for admin
3 == Delete Maintenance Mode for System
4 == Open interactive CLI
```

## Configuring date and time

### Procedure

1. From the TUI main menu, enter the number for **Configure Date and Time**.
2. If the SP has already been initialized, you must press **ENTER** to continue. (Using the TUI to change the date and time after the SP has been initialized is not recommended.)
3. Enter the date.
4. Enter the time.

## Adding the data scrubbing feature to the Service Console

### Procedure

1. From the TUI main menu, enter the number for **Add data scrubbing feature to Service Console**.  
This option will add the scrubbing feature to the Service Console, enabling the user to turn it on/off during SP Setup or through editing the SP configuration. The default will remain as off.
2. Enter **y**.

## Accessing experimental and advanced features

Select these options only when instructed by HPE Support personnel. Advanced features are identified with a trailing (adv) and experimental features are identified with a trailing (exp).

### Procedure

1. Select one of the following options:
  - **Manage vCenter certificates in the SP truststore (adv)**
  - **Disable getting past events from StoreServ (adv)**
  - **Disable SRHIREs data collection (adv)**
2. Follow the instructions that display on the screen.

## Managing vCenter certificates in the SP truststore

### Procedure

1. From the TUI main menu, enter the number for **Experimental and Advanced Features** (may appear on Main Menu page 2 if logged in as the admin user).
2. Enter the number for **Manage vCenter certificates in the SP truststore**.
3. Enter the number for one of the following options:

**a. List certificates in truststore**

The list of certificates installed in the SP truststore is displayed.

**b. Add certificate to truststore**

Instructions for restarting the SP services after adding the certificate are displayed.

---

**NOTE:** The certificate name (alias) must be 1-20 characters. Valid characters are: "a-z", "-", ";", or ".".

---

- I. Press **Enter** to continue.
- II. Enter the certificate name (alias) and then press **Enter**, or press **Escape** to quit and abandon your changes.
- III. Enter the certificate. Include the lines containing -----BEGIN CERTIFICATE----- and -----END CERTIFICATE----- when entering the certificate text. To accept the text, press **CTRL-G**.
- IV. Enter **Y** to add the certificate to the SP truststore, or **N** to cancel.
- V. Return to the SP Main Menu and enter the number to **Shutdown SP services**.
- VI. From the SP Main Menu, enter the number to **Start SP services**.

**c. Remove certificate from truststore**

Enter the number to remove a specific certificate from the SP truststore.

---

**NOTE:** If this certificate is used to validate any configured vCenter server certificates and FIPS is enabled, removing the certificate may stop HPE InfoSight Cross Stack Analytics data collection.

Several CA certificates are preinstalled in the SP truststore and should not be removed. Certificates with names (aliases) starting with "ssa-ca" should not be removed. Removing these certificates might cause failures during remote support connectivity tests.

---

- I. Enter **Y** to remove the certificate from the truststore or **N** to cancel.
- II. Return to the SP Main Menu and enter the number to **Shutdown SP services**.
- III. From the SP Main Menu, enter the number to **Start SP services**.

## Disabling getting past events from StoreServ

### Procedure

1. From the TUI main menu, enter the number for **Experimental and Advanced Features** (may appear on Main Menu page 2 if logged in as the admin user).
2. Enter the number for **Disable getting past events from StoreServ (adv)**.
3. Enter **y**.
4. Return to the SP Main Menu and enter the number to **Reboot SP**.

## Disabling SRHIRES data collection

### Procedure

1. From the TUI main menu, enter the number for **Experimental and Advanced Features** (may appear on Main Menu page 2 if logged in as the admin user).
2. Enter the number for **Disable SRHIRES data collection (adv)**.
3. Enter **y**.

# Support and other resources

## Accessing Hewlett Packard Enterprise Support

- For live assistance, go to the Contact Hewlett Packard Enterprise Worldwide website:  
<http://www.hpe.com/assistance>
- To access documentation and support services, go to the Hewlett Packard Enterprise Support Center website:  
<http://www.hpe.com/support/hpesc>

### Information to collect

- Technical support registration number (if applicable)
- Product name, model or version, and serial number
- Operating system name and version
- Firmware version
- Error messages
- Product-specific reports and logs
- Add-on products or components
- Third-party products or components

## Accessing updates

- Some software products provide a mechanism for accessing software updates through the product interface. Review your product documentation to identify the recommended software update method.

- To download product updates:

### Hewlett Packard Enterprise Support Center

[www.hpe.com/support/hpesc](http://www.hpe.com/support/hpesc)

### Hewlett Packard Enterprise Support Center: Software downloads

[www.hpe.com/support/downloads](http://www.hpe.com/support/downloads)

### Software Depot

[www.hpe.com/support/softwaredepot](http://www.hpe.com/support/softwaredepot)

- To subscribe to eNewsletters and alerts:

[www.hpe.com/support/e-updates](http://www.hpe.com/support/e-updates)

- To view and update your entitlements, and to link your contracts and warranties with your profile, go to the Hewlett Packard Enterprise Support Center **More Information on Access to Support Materials** page:

[www.hpe.com/support/AccessToSupportMaterials](http://www.hpe.com/support/AccessToSupportMaterials)



**IMPORTANT:** Access to some updates might require product entitlement when accessed through the Hewlett Packard Enterprise Support Center. You must have an HPE Passport set up with relevant entitlements.

---

## Customer self repair

Hewlett Packard Enterprise customer self repair (CSR) programs allow you to repair your product. If a CSR part needs to be replaced, it will be shipped directly to you so that you can install it at your convenience. Some parts do not qualify for CSR. Your Hewlett Packard Enterprise authorized service provider will determine whether a repair can be accomplished by CSR.

For more information about CSR, contact your local service provider or go to the CSR website:

<http://www.hpe.com/support/selfrepair>

## Remote support

Remote support is available with supported devices as part of your warranty or contractual support agreement. It provides intelligent event diagnosis, and automatic, secure submission of hardware event notifications to Hewlett Packard Enterprise, which will initiate a fast and accurate resolution based on your product's service level. Hewlett Packard Enterprise strongly recommends that you register your device for remote support.

If your product includes additional remote support details, use search to locate that information.

### Remote support and Proactive Care information

#### HPE Get Connected

[www.hpe.com/services/getconnected](http://www.hpe.com/services/getconnected)

#### HPE Proactive Care services

[www.hpe.com/services/proactivecare](http://www.hpe.com/services/proactivecare)

#### HPE Proactive Care service: Supported products list

[www.hpe.com/services/proactivecaresupportedproducts](http://www.hpe.com/services/proactivecaresupportedproducts)

#### HPE Proactive Care advanced service: Supported products list

[www.hpe.com/services/proactivecareadvancedsupportedproducts](http://www.hpe.com/services/proactivecareadvancedsupportedproducts)

### Proactive Care customer information

#### Proactive Care central

[www.hpe.com/services/proactivecarecentral](http://www.hpe.com/services/proactivecarecentral)

#### Proactive Care service activation

[www.hpe.com/services/proactivecarecentralgetstarted](http://www.hpe.com/services/proactivecarecentralgetstarted)

## Warranty information

To view the warranty for your product or to view the *Safety and Compliance Information for Server, Storage, Power, Networking, and Rack Products* reference document, go to the Enterprise Safety and Compliance website:

[www.hpe.com/support/Safety-Compliance-EnterpriseProducts](http://www.hpe.com/support/Safety-Compliance-EnterpriseProducts)

### Additional warranty information

#### HPE ProLiant and x86 Servers and Options

[www.hpe.com/support/ProLiantServers-Warranties](http://www.hpe.com/support/ProLiantServers-Warranties)

#### HPE Enterprise Servers

[www.hpe.com/support/EnterpriseServers-Warranties](http://www.hpe.com/support/EnterpriseServers-Warranties)

#### HPE Storage Products

[www.hpe.com/support/Storage-Warranties](http://www.hpe.com/support/Storage-Warranties)

#### HPE Networking Products

[www.hpe.com/support/Networking-Warranties](http://www.hpe.com/support/Networking-Warranties)

# Regulatory information

To view the regulatory information for your product, view the *Safety and Compliance Information for Server, Storage, Power, Networking, and Rack Products*, available at the Hewlett Packard Enterprise Support Center:

**[www.hpe.com/support/Safety-Compliance-EnterpriseProducts](http://www.hpe.com/support/Safety-Compliance-EnterpriseProducts)**

## Additional regulatory information

Hewlett Packard Enterprise is committed to providing our customers with information about the chemical substances in our products as needed to comply with legal requirements such as REACH (Regulation EC No 1907/2006 of the European Parliament and the Council). A chemical information report for this product can be found at:

**[www.hpe.com/info/reach](http://www.hpe.com/info/reach)**

For Hewlett Packard Enterprise product environmental and safety information and compliance data, including RoHS and REACH, see:

**[www.hpe.com/info/ecodata](http://www.hpe.com/info/ecodata)**

For Hewlett Packard Enterprise environmental information, including company programs, product recycling, and energy efficiency, see:

**[www.hpe.com/info/environment](http://www.hpe.com/info/environment)**

# Documentation feedback

Hewlett Packard Enterprise is committed to providing documentation that meets your needs. To help us improve the documentation, send any errors, suggestions, or comments to Documentation Feedback (**[docsfeedback@hpe.com](mailto:docsfeedback@hpe.com)**). When submitting your feedback, include the document title, part number, edition, and publication date located on the front cover of the document. For online help content, include the product name, product version, help edition, and publication date located on the legal notices page.

# Glossary

**OVF**

Open Virtualization Format

**SC**

HPE 3PAR Service Console

**SP**

Service Processor

**SPOCC**

Service Processor Onsite Customer Care

**SSMC**

HPE 3PAR StoreServ Management Console

**TUI**

Text-based User Interface

**VM**

Virtual Machine

**VSP**

Virtual Service Processor